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THE STATES *and* AIR TRANSPORTATION

COOPERATIVE STUDY BY THE

NATIONAL GOVERNORS' ASSOCIATION

AND THE

NATIONAL ASSOCIATION OF STATE AVIATION OFFICIALS
CENTER FOR AVIATION RESEARCH AND EDUCATION

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EXECUTIVE SUMMARY
THE STATES and AIR TRANSPORTATION

The National Association of State Aviation Officials Center for Aviation Research and Education (NASAO/CARE), under contract to the National Governors' Association (NGA), has researched and prepared a report documenting the current status of the states' role in the national air transportation system. The report is intended to contribute to a package of material, covering aviation's economic contribution and the states' support for airport capacity enhancement, which the National Governors' Association is delivering to the Federal Aviation Administration (FAA). Funding for the NGA's involvement, and its subcontract to NASAO/CARE, was made available by a contract with the FAA.

The NGA's contract with NASAO/CARE specifically requested a document providing current information and data covering the following topics:

- the structure of state aviation agencies;
- aviation generated tax revenues at the state level;
- state aviation program expenditures;
- state activities to enhance airport system capacity and utility; and,
- state programs to document aviation's contribution and impact.

NASAO/CARE, to accomplish this report preparation task, conducted an extensive survey of each of the 50 states. The written survey was complimented, in nearly every case, with one or more telephone conversations between the NASAO/CARE staff and the Director or staff of the state aviation agency.

It is important to note that this report does not, and was not intended to, completely document all aspects of a state's involvement with aviation. Nor was the intent of the report to conduct analysis of the data collected. The focus taken was on the states' contribution to the development and maintenance of the air transportation infrastructure. Thus NASAO/CARE documented the amount of funding each state has available, the programs or priorities the states have established for expenditure of those funds and the other aviation safety or education activities with which the states have chosen to be involved. Specifically not covered by this report, and clearly a prime topic for a later study, is the states' involvement and interaction with the passenger air carrier industry.

Care was taken in the preparation of the report not to dwell simply on the activities of each state's "aviation agency." Rather, NASAO/CARE has attempted to collect enough information from each state to present a view of the broad spectrum of state involvement. Key indicators of the extent of that involvement are:

- State governments own 524 public-use airports, including 46 primary commercial service airports enplaning more than 10,000 passengers per year (33 of these primary airports are in either Alaska or Hawaii);
- State aviation agencies employ the equivalent of over 3,400 full time staff, in addition to their utilization of staff resources from other state agencies and/or private consulting firms; and,
- During the most recently completed fiscal year, the states expended over $504 million in state funds for airport planning, development and operation, including $23 million in loans made to public-owned airports.

The data which NASAO/CARE gathered could be used to portray a generic or composite picture of a state's involvement with aviation. While this was not initially identified as a product of the research, such a review of a "typical" state program can be of help in getting a better grasp on the extent to which states are currently involved. Of course, it was clearly evident from the data collected that each state has a slightly different approach to dealing with air transportation issues. No attempt should be made to evaluate the effectiveness of one particular state program against another. Such an evaluation would require a deeper appreciation, than was provided by the NASAO/CARE research, of the regulatory, statutory, administrative and historical framework within which the state government agency functions.

Given these cautions, a "typical" program of state involvement could be described by the following elements:

- The state aviation agency would be a component of the state's Department of Transportation. In 38 of the states this is currently true.
- Either through the state aviation agency or some other agency/entity of state government, the state would be in the airport ownership/operation business. Thirty-eight of the states currently own a total of 524 airports. The more rural or geographically isolated the state, the greater the number of airports the state government would likely own. Alaska leads all states in the number of airports owned by the state, with Oregon, Idaho, Washington, Montana, Hawaii, Utah and Vermont each owning ten or more airports.
- The primary areas of activity to which the state aviation agency would be committing manpower would be Aviation Safety Programs, Policy Development, Project Management and Planning. This agency would also be receiving staff and administrative

support from another state agency -- most likely from the Department of Transportation of which it is apart -- and assistance with planning and project management from a private contractor.

- In addition to the designated state aviation agency, other state government departments or entities such as those responsible for law enforcement, search and rescue, medical emergency transportation, natural resources, executive air transport, environmental protection and wildlife management would all likely to be involved in some way with aviation, aircraft operation and/or aviation issues.

- The aviation agency would like a more formal partnership developed between the Federal Aviation Administration and the state. Specifically, the agency most likely believes aviation would benefit if the state were more involved with the project grant programming of federal airport improvement funds. Further, the state aviation agency also probably agrees with the majority who assert they would contribute to the improvement of the air transportation system through having a greater role in the analysis of airspace proposals, the coordination of airport planning studies and the development of instrument approach procedures.

- The aviation industry would be paying taxes to the state in one or more ways. In all likelihood 48 of the 50 states -- Texas and Massachusetts being the only exception -- an aviation fuel excise or sales tax would be levied. Most commonly this tax would be between four and six cents per gallon on aviation gasoline and one to three cents per gallon on jet fuel. Less likely is that the state would be collecting revenue from aircraft registration, pilot registration, airport operation or airport licensing.

- The source of the state aviation agency's program funding would be linked to the repository fund into which the aviation generated tax revenues are deposited. At the present time, 21 state agencies are funded from the state's general fund, 26 from a state aviation fund, 6 from the state's highway user fund, 11 from a state consolidated transportation fund and 4 from other special bond or revenue funds. (These numbers sum to more than 50 because in thirteen states the agency receives appropriations from two or more funding sources.)

- In making expenditure decisions for airport improvement projects, the state aviation agency would give the most consideration to projects which enhance aviation safety, aid in airport facility preservation, and/or contribute to local economic development. Closely following these would be the consideration of the availability of federal and local funds to share, with the state in the projects' cost burden.

- The state would also be making expenditures, though not necessarily annually, for such aviation related products as a state aeronautical chart and/or airport directory (possibly co-sponsored by the state tourism agency), studies of the commercial passenger air service needs of local communities and aviation economic impact studies.

- The state would be assisting the federal government address the growing airport system capacity problem through its involvement in developing a State Aviation Systems Plan (SASP), its investment in navigational aids (NAVAIDs) and its coordination of surface transportation planning with airport access needs. The SASP would identify the airports essential to the state's transportation network and the extent and cost of capital development needed at each site. Investing in NAVAIDs would add to the utility of existing airfields as would coordinated intermodal transportation planning.

- The state would *not* be taking an active role in protecting the airports from incompatible land uses. The constraints, to airport operations, applied by incompatible land uses are universally recognized as a contributor to the system-wide airport capacity problem.

NASAO/CARE has taken care not to attempt to draw any conclusions from the data and information presented in this report. The purpose of the research was not to characterize a state's involvement with aviation as "right or wrong" or "good, better or best." Rather, NASAO/CARE has prepared this document for the National Governors' Association with the intent that the report and its supporting data will: contribute to an appreciation of the extent to which state governments are now involved; broaden the awareness that the capacity and safety issues facing aviation should be addressed cooperatively by the local, state and federal governments; and, provide program direction to those states seeking to broaden the scope of their involvement.

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SECTION I:
STRUCTURE AND FUNCTION OF STATE AVIATION SERVICES

1. Introduction

The National Association of State Aviation Officials Center for Aviation Research and Education (NASAO/CARE), during the Fall of 1988, responded to a request from the National Governors' Association (NGA) for a report describing the current and projected role of states in the national air transportation system. The purpose was to create a focused picture of the resources that the states represent, i.e., the states' contributions. Specifically, the National Governors' Association requested the report address the following topics: The Structure of the State Aviation Agencies; Aviation Generated Tax Revenues; State Aviation Program Expenditures; Activities to Enhance System Capacity and Utility; and, Programs to Document Aviation's Contribution and Impact.

2. Methodology

The data for this report was collected from the 50 state government aviation agencies by written survey and telephone interview conducted by members of the NASAO/CARE staff between August and November, 1988. Data collected by other means are indicated as such during discussion of those data.

A copy of the "The States and Air Transportation" survey instrument is included in Appendix C. The survey instrument was developed by the NASAO/CARE staff and personnel from six state aviation agencies: Maryland, Texas, Illinois, Minnesota, Alaska and New Jersey. Further review and refinement was provided by several "pilot" states. The survey, as distributed to each state, was identical, however, the order of the topics in the surveys was randomized. This was done to ensure that the quality of the information would not be sacrificed on the last page(s) of the lengthy questionnaire.

3. Structure of State Aviation Agencies

State aviation agencies are as diverse in their composition as the 50 states themselves.

- 38 state aviation agencies are a component of the state Department of Transportation
- 9 state aviation agencies function as independent commissions or departments
- 1/3 of the state aviation agency Directors are political appointees

The structure of state aviation agencies varies from state to state as does their function and breadth of services. While this report makes every effort to simplify and reduce data, a concerted effort was made not to ignore the diversity among state aviation activities. The uniqueness of the state aviation programs provides an educational opportunity: there is more than one correct solution to a problem!

3.1 Director

According to data collected by NASAO/CARE in 1986, the average time that a state aviation agency Director held his/her position is six years (range: 1 month to 23 years). Further, the state aviation agency Directorship is considered to be a political appointee in approximately one-third of the states.

3.2 State Government Structure

According to the most recent survey, the vast majority of the state aviation agencies are a component of their respective state's Department of Transportation (DOT). Thirty-eight states fall into this category. Another nine states are organized as independent agencies or commissions: Alabama, Arkansas, Mississippi, Nebraska, North Dakota, South Carolina, Texas, Virginia and Wyoming. Finally, there are three states in which the agencies are components of other branches of state government: Colorado - Division of Military Affairs (effective January, 1989); Montana - Division of Commerce; and, West Virginia - Governor's Office of Community and Industrial Development.

There do not appear to be any consistent differences in staffing or in the scope of agency activities between the states that are within a DOT versus those that function as an independent agency or commission. The tables that follow do, however, seem to indicate that the three states which are under non-transportation state government departments tend to have relatively smaller size staff and

fewer state grant dollars available. A relatively small staff however does not necessarily imply reduced services. Indeed, the Montana Aeronautics Division owns and operates an airport receiving scheduled commercial air service as well as providing a wide variety of other services.

3.3 Airport Ownership

State governments own 524 airports, ranging from 46 primary commercial serviceto hundreds of general aviation fields.

- State-owned airports include major commercial hubs such as Honolulu, Anchorage and Baltimore-Washington International
- Western States, particularly, own numerous mountain landing strips providing access to remote back country sites for recreational and emergency use
- 317 of 524 state-owned airports are owned by the State of Alaska

Thirty-eight state governments own airports, a fact which impacts not only the structure but the function of the agency. Table 1.1 is a summary of airport ownership as reported by state agency personnel. The classification of airport ownership is indicated in the leftmost column. This is followed by a breakdown, by type of airport, using the nomenclature of the National Plan of Integrated Airport Systems (NPIAS). (The NPIAS, mandated by the Airport and Airway Improvement Act of 1982, requires the Secretary of Transportation to publish a national plan for the development of public-use airports. Airports identified in the NPIAS are potentially eligible for Federal funding under the Airport Improvement Program (AIP). Historically, slightly less than 50% of the airports contained in the NPIAS have actually received Federal funding assistance. The NPIAS contains existing as well as new or replacement airports.) These classification are:

- Primary Commercial Service (annual passenger enplanements of greater than 10,000),
- Non-Primary Commercial Service (annual passenger enplanements between 2,500 and 10,000),
- FAA Designated General Aviation Relievers (for added capacity in large metropolitan areas),
- General Aviation Airports and,
- Heliports.

The final three columns of Table 1.1 provide a breakdown by ownership of airports not included in the NPIAS (Non-NPIAS). All Primary Commercial Services and FAA Designated Reliever

Airports are included in the NPIAS, therefore, these columns have been deleted under the Non-NPIAS heading.

TABLE 1.1
PUBLIC-USE AIRPORT OWNERSHIP

	NPIAS					Non-NPIAS		
Ownership:	Primary	Non-Primary	Reliever	G.A.	Heliport	Non-Primary	G.A.	Heliport
State Aviation Agency	42	36	5	193	1	0	184	3
Other State Agency/Entity	4	1	2	18	0	0	31	4
Other Public Entities	332	135	195	2,284	21	1	1,050	112
Private	4	2	39	157	1	1	1,744	211
TOTALS:	**382**	**174**	**241**	**2,652**	**23**	**2**	**3,009**	**330**

Table 1.2 further breaks down the data in Table 1.1 by presenting a state by state listing of NPIAS and Non-NPIAS airports owned by state governments. Included are airports that are either owned by the state aviation agency or those owned by another state government department/entity. The states are rank ordered by the total number of airports owned.

TABLE 1.2
PUBLIC-USE AIRPORT INVENTORY
OWNERSHIP: STATE AVIATION AGENCY
OR OTHER STATE GOVERNMENT ENTITY

	Airports in NPIAS						Airports Not in NPIAS					
STATE	Primary	Non-Primary	Reliever	GA	Heliports	(TOT)	Primary	Non-Primary	GA	Heliports	(TOT)	TOTAL
AK	25	29	0	155	0	209	0	0	108	0	108	317
OR	0	0	0	13	0	13	0	0	23	0	23	36
ID	0	0	0	0	0	0	0	0	30	0	30	30
WA	0	0	0	1	0	1	0	0	17	0	17	18
MT	0	1	0	1	0	2	0	0	11	0	44	13
HI	8	4	0	0	1	13	0	0	0	0	0	13
UT	0	0	0	0	0	0	0	0	11	0	33	11
VT	0	2	0	7	0	9	0	0	1	0	1	10
OK	0	0	0	7	0	7	0	0	0	0	0	7
RI	3	0	1	2	0	6	0	0	0	1	1	7
CT	2	0	1	3	0	6	0	0	0	0	0	6
IN	1	0	0	0	0	1	0	0	5	0	5	6
OH	0	0	1	2	0	3	0	0	0	2	2	5
TX	1	0	0	2	0	3	0	0	1	0	1	4
NE	0	0	0	4	0	4	0	0	0	0	0	4
KY	0	0	0	2	0	2	0	0	2	0	2	4
PA	1	0	1	1	0	3	0	0	0	0	0	3
ND	0	0	0	1	0	1	0	0	1	0	1	2
NY	0	0	1	1	0	2	0	0	0	0	0	2
NH	0	0	0	1	0	1	0	0	0	1	1	2
NC	0	0	0	2	0	2	0	0	0	0	0	2
MD	1	0	1	0	0	2	0	0	0	0	0	2
MA	1	0	1	0	0	2	0	0	0	0	0	2
AR	0	0	0	0	0	0	0	0	0	2	2	2
ME	1	0	0	0	0	1	0	0	1	0	1	2
MO	0	1	0	1	0	2	0	0	0	0	0	2
SD	0	0	0	0	0	0	0	0	1	0	1	1
WY	0	0	0	0	0	0	0	0	1	0	1	1
TN	0	0	0	1	0	1	0	0	0	0	0	1
VA	0	0	0	1	0	1	0	0	0	0	0	1
CA	0	0	0	1	0	1	0	0	0	0	0	1
DE	0	0	0	0	0	0	0	0	0	1	1	1
AL	0	0	0	1	0	1	0	0	0	0	0	1
AZ	1	0	0	0	0	1	0	0	0	0	0	1
MN	0	0	0	0	0	0	0	0	1	0	1	1
MS	0	0	0	1	0	1	0	0	0	0	0	1
IL	1	0	0	0	0	1	0	0	0	0	0	1
MI	0	0	0	0	0	0	0	0	1	0	1	1
Totals	46	37	7	211	1	302	0	0	215	7	222	524

Table 1.3 shows states that own/operate airports receiving scheduled commercial air service. There are twelve states that are sponsors of primary commercial service airports while three others operate non-primary commercial air service airports. Alaska and Hawaii operate both primary and non-primary commercial service airports.

TABLE 1.3
STATES THAT OWN/OPERATE
AIRPORTS RECEIVING SCHEDULED COMMERCIAL AIR SERVICE

PRIMARY COMMERCIAL AIR SERVICE	NON-PRIMARY COMMERCIAL AIR SERVICE
Alaska	Alaska
Arizona	Hawaii
Connecticut	Missouri
Hawaii	Montana
Illinois	Vermont
Indiana	
Maine	
Maryland	
Massachusetts	
Pennsylvania	
Rhode Island	
Texas	

It seems clear that geographic remoteness and the need to provide transportation access are big determinants in a state's decision to own/operate airports. Alaska alone accounts for 60% of the state-owned airports. When combined with Hawaii, these two states operate 33 of the 46 primary commercial service airports owned by states. In the Rocky Mountain and Pacific Northwest Region, it is the provision of access for economic reasons, recreation and/or emergencies which finds the states of Washington, Oregon, Idaho, Montana and Utah operating numerous general aviation landing strips.

The preceding tables (Table 1.1, Table 1.2 and Table 1.3) have documented that state governments are very actively involved in managing a great number and variety of aviation facilities. However, the role of the states in managing our national air transportation system is even greater when the total contribution by the states is considered.

Seventeen state governments have established other quasi-government agencies for the development and/or operation of air carrier airports. The existence of these entities may or may not impact the state aviation agency depending upon the structure provided by the State Legislature. In

some instances, the state aviation agency is responsible for providing personnel and/or obligating funds. These quasi-state government entities are summarized in Table 1.4.

TABLE 1.4
QUASI-STATE GOVERNMENT AGENCIES ASSOCIATED WITH THE DEVELOPMENT AND/OR OPERATION OF AIR CARRIER AIRPORTS

STATE	Quasi-State Government Agency and Aviation Agency's Funding Commitment:
Arizona	Tucson Airport Authority. The authority is eligible to apply for state funding.
California	San Diego Port Authority (Lindbergh Field) is self-sustaining. Airport Districts operate Monterey Peninsula, Santa Maria and Inyokern Airports.
Indiana	Purdue University. The Division of Aeronautics provides 50% of the local match required for FAA grants.
Kansas	Mid America Regional Council Kansas City Port Authority
Massachusetts	Massachusetts Port Authority (MASSPORT) owns and operates Boston-Logan International Airport and Bedford-Hanscom Field
Minnesota	Minneapolis/St. Paul Metropolitan Airports Commission (MAC) owns and operates Minneapolis/St. Paul International Airport and its reliever airports, the state provides financial assistance for planning and construction.
New Hampshire	New Hampshire Port Authority has jurisdiction over any airport within fifteen miles of Portsmouth. No airport exists at present time.
New Jersey	Port Authority of New York/New Jersey (Newark International). No financial commitment from the state to the Authority.
New York	Port Authority of New York/New Jersey (Kennedy and LaGuardia). The state provides no funding but does give approval for projects. Niagra Frontier Transportation Authority (Buffalo). The state directly funds capital development.
North Dakota	Fargo Municipal Airport Authority Grand Forks Region Airport Authority
Oregon	Port of Portland. The state's Division of Aeronautics' staff participates in Port's airport planning projects. The results of those planning efforts are incorporated into the State Aviation Systems Plan.
Pennsylvania	Philadelphia Port Authority and Pittsburgh Port Authority - The state funds up to 75% of local share required for FAA grants.
South Dakota	Sioux Falls Regional Airport Authority (Joe Foss Field)
Utah	Salt Lake Airport Authority. The state approves all construction projects.
Virginia	Metropolitan Washington Airports Authority (Dulles/National). The state provides funding for marketing and promotion.
Washington	The Division of Aeronautics makes grants for planning and construction to: Port of Seattle (SEATAC); Port of Bellingham; Port of Pascoe; Yakima Airport Board.
West Virginia	The West Virginia Inland Port Authority established by Executive Order on August 19, 1988, has the authority to provide financial and technical assistance toward the establishment of inland ports, including airport-oriented ports. No specific funding has been committed.

4. Function of State Aviation Agencies

4.1 Manpower

Regardless of staff size, state aviation agencies provide a common core of services using the resources of 'in-house' personnel, other state agencies and outside contractors.

- 3,475 full-time equivalent personnel positions are staffed within the state aviation agencies
- Activities to enhance aviation safety along with airport management were most often cited functions of State Aviation Agency employees.

While it would seem instructive to enumerate the size of each state aviation agency in terms of full-time equivalents (FTEs), this would be an inappropriate comparison since the function of the state aviation agencies varies greatly from state to state. For example, Hawaii reported a total of 876 FTEs - this number is certainly related to the fact that Hawaii owns and operates all the airports in the state.

Because of the differences in state agency role/structure, states were queried concerning the specific functions fulfilled by their state aviation agency. The results are shown in Table 1.5: Column 1 indicates functions directly fulfilled by "In-House" state aviation agency personnel; Column 2 indicates functions fulfilled by other state government personnel; Column 3 indicates functions fulfilled by personnel under contract to the state aviation agency. It was considered significant to include Columns 2 and 3 because resources external to the state aviation agencies are available and should not be overlooked in a comprehensive review of the states' capabilities and contributions.

In examining Table 1.5, state aviation agencies, apart from routine administrative functions, seem to primarily provide aviation safety, planning, policy-making and environmental services. States are less likely to be involved with regulatory matters and airport operations. The latter most likely reflect differences in state statutes concerning regulatory responsibilities and whether a state functions as an airport owner/operator, respectively.

In general, state agencies receive support from other state agencies in nearly all areas of responsibility with the exception of aviation safety services and regulatory matters. Ranking

highest is administrative support such as clerical, accounting and personnel matters and motor pool operation. Column 3 indicates that approximately one-half of the states hire contractors primarily to provide planning, airport project management and environmental services.

The functions listed in Table 1.5 are certainly not exhaustive. Various states mentioned in their survey responses that they provide passenger air service marketing, aviation education/awareness programs, flight operations/executive transport, as well as search and rescue services.

It should be noted that states typically have other agencies/departments, *independent* from the state aviation agency, which conduct aviation activities in fulfillment of their duties. These include the agencies responsible for law enforcement, Natural Resources, Wildlife and Environmental Protection. Most states also provide assistance, financial or otherwise, to the state wing of the Civil Air Patrol (CAP). CAP is a search-and-rescue and disaster assistance unit of the United States Air Force Auxiliary. Additionally, several states indicated they fund and/or operate aviation training programs through their University system.

TABLE 1.5
SUMMARY OF STATE AVIATION AGENCY MANPOWER DUTIES BY SOURCE OF FTE's

Manpower Duties	Number of states who fulfill manpower duties with personnel from: Aviation Agency	Other State Agency/Dept	Contract
Administrative Staff & Support	47	34	3
Airport Operations	24	14	14
Regulatory Matter	36	8	0
Planning	48	16	41
Aviation Policy	48	26	0
Airport Project Management.	47	12	25
Aviation Safety	49	8	12
Environmental Services	46	33	22

Terms:
Administrative Staff & Support: e.g., accounting/statistics, clerical, motor pool
Airport Operations: e.g., management, security, maintenance
Regulatory Matters: e.g., airport and/or aircraft registration/licensing
Planning: e.g., airport master plan and state system plan
Aviation Policy: e.g., directly advise governor and/or legislature on policy matters
Airport Project Management: e.g., technical assistance and engineering support
Aviation Safety: e.g., pilot seminars, airport maintenance - painting/windsocks, 5010 inspections
Environmental Services: e.g., noise, tanks, pollution, land use planning, tall towers

4.2 State Channeling

The role of a state in the federal airport aid program can be influenced by a state's channeling authority.

- 15 states have channelling authority requiring they act as a local government's agent
- 32 additional states are permitted by statute to channel federal funds though only 50% of these actual do act as a local government's agent
- Channelling authority can enhance the state's ability to leverage federal funds to support state identified projects

Another important factor defining a state's involvement in the federal airport aid program is whether the state is required, permitted or prohibited from channeling federal funds. Channeling refers to the approval, by an agency of state government, of the spending of federal funds, prior to the time when those funds are dispersed to a local government entity. In effect, when strict channeling occurs the state is acting as an agent for the local entity.

There is wide variation in the extent to which states will act to channel federal funds. One extreme is the case where the federal funds are deposited in the state treasury and disbursements to the local entity are made by the state comptroller on a state warrant. The other extreme is those states which are prohibited from acting as a channelling agent in the flow of funds.

The most common exercise of channelling authority is somewhere between these extremes. States have the authority to act as an agent for a local government, but do so only in special cases or upon request. In other instances, a channelling state may have a sign-off or approval responsibility prior to the federal grant being offered. In this instance, the state will not be a party to the dispersal of funds once their approval has been secured.

Fifteen states are required to act as an agent for the local sponsor of a federally funded airport improvement project. Of the 32 additional states that are permitted to act as a sponsor, 50% have elected to do so at some time. There are three states, however, that are prohibited from channelling federal funds (Missouri, Kansas and New Mexico). (Table 1.6 presents complete list of state channeling authority.)

A rigid channeling state has statutorily recognized authority to approve or disapprove the expenditure of federal funds at airports within its borders. It can therefore be suggested that state channelization of federal funds is tantamount to a state administered block grant program. Most states that are required to - or choose to - channel federal funds for airport development have an opportunity to influence the placement of these funds and coordinate the federal investment with state program expenditures.

As the level of state financial involvement in aviation facility development increases, the state may well recognize the benefit in coordinating state and federal programs. Unfortunately, the two levels of government may not share similar airport development goals. In those instances, states with a formal arrangement of cooperation with the Federal Aviation Administration may feel they are more successful in leveraging federal funds to meet state identified needs and priorities.

TABLE 1.6
STATE CHANNELING AUTHORITY

#1: AUTHORITY: "Is your Department/Agency *required, permitted or prohibited* to act as an agent or a sponsor in a FEDERALLY FUNDED airport improvement project?"

#2: CONDITION: If the answer to question 1 is permitted, *does* your state act as an agent or sponsor in FEDERALLY FUNDED airport improvement projects?

STATE	AUTHORITY	CONDITION	STATE	AUTHORITY	CONDITION
AK	Required	Not applicable	MT	Permitted	Yes
AL	Permitted	No - need has not occurred	NC	Permitted	Not to date
AR	Permitted	Yes	ND	Permitted	No
AZ	Permitted	Yes	NE	Required	Not applicable
CA	Permitted	No	NH	Required	Not applicable
CO	Permitted	No	NJ	Permitted	No
CT	Permitted	Yes	NM	Prohibited	Not applicable
DE	Permitted	Yes	NV	Permitted	Yes
FL	Permitted	No	NY	Permitted	No
GA	Permitted	No	OH	Permitted	No
HI	Required	Not applicable	OK	Permitted	No
IA	Permitted	Yes - upon local sponsor request	OR	Permitted	Yes - only at state-owned airports
ID	Permitted	No	PA	Permitted	Yes - only at state-owned airports
IL	Required	Not applicable	RI	Permitted	Yes
IN	Required	Not applicable	SC	Permitted	Yes
KS	Prohibited	Not applicable	SD	Required	Not applicable
KY	Permitted	Yes	TN	Required	Not applicable
LA	Permitted	Yes	TX	Permitted	No
MA	Required	Not applicable	UT	Required	Not applicable
MD	Required	Not applicable	VA	Permitted	No
ME	Permitted	Yes	VT	Required	Not applicable
MI	Permitted	Yes	WA	Permitted	Yes
MN	Required	Not applicable	WI	Required	Not applicable
MO	Prohibited	Not applicable	WV	Permitted	No
MS	Permitted	Yes	WY	Required	Not applicable

5. Expansion of State Aviation Functions

Improving the state, local and federal partnership will optimize and benefit all levels of government.

- Areas of potential state involvement include:
  - Administration of federal airport capital improvement grant funds
  - Coordination of all airport development planning
  - Preparation of instrument approach procedures

Strengthening the partnership between the states and the federal government will facilitate the governments' mutual goal of maintaining a safe and efficient national air transportation network. This sentiment has been increasing heard during the years of the Reagan Administration and most recently was verified with the formalization of a partnership relationship between FAA and the State of Minnesota. One means to enhance the partnership between federal and state aviation counterparts is by encouraging, where appropriate, the cooperative role of states in federal programs.

A prime candidate for strengthening the federal/state partnership is allowing states a greater involvement in the federal Airport Improvement Program (AIP). Table 1.7 indicates that when states were asked, "What activities now performed by the FAA could your state assume if funded by the FAA?" - 35 states indicated administration of the AIP program. This response is not surprising considering that the great majority of states and the federal government do *not* have any formally established procedures to ensure that federal funding goes to airport development goals identified by the states in their State Aviation Systems Plans (SASP).

An excellent example of where the federal government capitalized upon the states' resources was the decision by the Federal Aviation Administration to contract with the states to implement the Airport Safety Data Program. The Airport Safety Data Program involves the annual inspection of 4700 public-use airports. This includes all the publicly-owned and privately-owned airports not certificated to receive scheduled commercial service. The data gathered by state personnel at airports nationwide is used by the federal government as source material for pilot navigation documents and charts, for air traffic controller needs and for FAA planning activities. In many instances the states were already conducting their own inspections at airports for a variety of reasons (e.g., update of State Aviation Systems Plan, accident investigation). Piggybacking the

annual federal inspection has proved beneficial to both parties. Most recently the federal procurement overhead was significantly reduced by executing a multi-year contact with NASAO/CARE to administer this program of state conducted airport inspections.

Another frequently mentioned program with the opportunity for state involvement are the airport certification inspections at the Federal Aviation Regulation (FAR) Part 139 airports receiving scheduled commercial air service. These inspections would be a natural extension of the inspection work now conducted by the states under the Airport Safety Data Program.

Table 1.7 also shows a willingness on the part of the states to become more involved in conducting airspace analysis, coordinating of airport planning studies and developing new instrument approach procedures.

TABLE 1.7
ACTIVITIES PERFORMED BY THE FAA THAT STATE AVIATION AGENCIES WOULD ASSUME IF ADEQUATELY FUNDED BY THE FAA

STATE	FAA ACTIVITY STATE WOULD ASSUME
Alaska	5010 Inspections - If adequate funding is provided.
Arizona	Airport Improvement Program (AIP) Administration Airspace Analysis Coordination of Planning and FAR Part 150 Studies
Arkansas	Accident Prevention Program AIP Administration
California	AIP Administration
Connecticut	FAR 139 Certification Inspections AIP Administration
Florida	Compliance Reviews Airspace Analysis
Georgia	AIP Administration Airspace Analysis Instrument Approach Procedures Development FAR 139 Certification Inspections Accident Prevention Program
Hawaii	5010 Inspections
Idaho	Compliance Reviews
Illinois	AIP Airport/Safety Inspections AIP Administration Coordination of Planning and FAR Part 150 Studies
Indiana	AIP Administration
Iowa	AIP Administration
Kansas	AIP Administration
Kentucky	AIP Administration
Maine	AIP Administration Coordination of Planning and FAR Part 150
Massachusetts	AIP Administration Instrument Approach Procedure Development FAR 139 Certification Inspections
Michigan	AIP Administration
Minnesota	AIP Administration Coordination of Planning
Mississippi	AIP Administration

STATE	FAA ACTIVITY STATE WOULD ASSUME
Missouri	AIP Administration Runway Friction Testing Runway Smoothness Testing Pilot Safety and Education Program
Montana	AIP Administration
Nebraska	AIP Administration Install and Maintain NAVAIDs Operate and Maintain Weather Collection and Dissemination Network
New Hampshire	AIP Administration Accident Prevention Programs Aviation Education
New Jersey	Aircraft Accident Investigation AIP Administration
New Mexico	Any Functions
New York	AIP Administration
North Carolina	AIP Administration
North Dakota	Aviation Education AIP Administration Non-Federal NAVAID Justification Surplus Property Screening
Ohio	Compliance Reviews Instrument Approach Procedures Development
Oklahoma	AIP Administration
Pennsylvania	AIP Administration
Rhode Island	AIP Administration
South Carolina	AIP Administration
South Dakota	AIP Administration AR 139 Certification Inspections
Texas	AIP Administration Compliance Reviews FAR 139 Certification Inspections Instrument Approach Procedure Development
Utah	AIP Administration
Vermont	Weather Observation Service
Virginia	AIP Administration FAR 139 Certification Inspections Airman Written Examination

STATE	FAA ACTIVITY STATE WOULD ASSUME
Washington	FAR 139 Compliance Inspections AIP Administration Airspace Analysis
West Virginia	AIP Administration
Wisconsin	AIP Administration

SECTION II:
AVIATION GENERATED REVENUES

The character of state funding for the development and operation of the aviation system has, over the last several years, taken on a significant new importance. Federal emphasis is increasingly focused on airports and facilities of national impact. This emphasis is largely motivated by the overwhelming pressure of the Federal budget deficit and the impact of airline deregulation on airport capacity. It has remained the states' responsibility to assure that access to the "national system" is available to all citizens from communities of all sizes. As states have come to recognize the expanding nature of this important transportation role, there is a need for a more complete understanding of the revenue resources available to support the states' involvement.

These data were collected during the summer of 1988. They reflect the states' most recently completed fiscal year and thus in most instances the agencies' revenues for the 1987-88 time frame. In presenting the tables, NASAO/CARE adds a word of caution. The magnitude of funds available is not, by itself, an indication of the agency's level of accomplishment. Agencies have differing statutory mandates and regulatory responsibilities. Comparisons between states should only be considered when any number of factors, in addition to available revenue resources, have been considered.

1. Aviation Fuel Taxes

Fuel taxes are the aviation agencies' major revenue source with tax rates ranging up to 15 cents per gallon.

The states' most widely utilized source of revenue generated by the aviation community are taxes on fuel sales. Table 2.1 and 2.2 present the reported current tax rates for aviation gasoline (AVGAS) and jet fuel. For clarification, several terms used in these tables require brief definition.

- **GA** - General Aviation includes all civil (non-military) aviation activity except that conducted by the certificated air carriers or commuter carriers. GA includes recreational flying as well as personal, business and corporate transportation.
- **Commercial** - Commercial aviation activity includes the operation of the certificated air carriers and commuter carriers. These operations may be handling passengers or freight.

- **Refund** - A refund of some portion of the fuel tax paid at the pump is offered by numerous states. The refund provisions may apply to all users or to a specific subset of users such as commercial operators, aerial applicators ("crop-dusters") or flight schools.

Refunds range up to 100% of the state tax originally paid by the purchaser. As the refund eligibility criteria can be lengthy and vary widely from state-to-state, no attempt has been made to detail them in this report. A NASAO/CARE Special Report: "State Aviation Activity Funding and Aviation Generated Tax Revenues," last updated in September 1988, contains a full explanation of each state's fuels tax and applicable refund structure.

As the primary source of revenue for most states' aviation program, fuel taxes are a target of frequent review and alteration. Since there data were originally collected, Colorado has initiated a 6 cent per gallon tax on AVGAS for GA use and added 4 cent per gallon tax to jet fuel for GA use. Other changes, of which NASAO/CARE has not been made aware, may also have been made.

The following chart provides a summary of the magnitude of the tax imposed by the states. These numbers have been summarized from Tables 2.1 and Table 2.2.

MAXIMUM TAX PER GALLON PRIOR TO ANY REFUND*	NUMBER OF STATES AVGAS	JET FUEL
<3¢	7	18
≥3¢<6¢	16	24
≥6¢<10¢	14	6
≥10¢	13	2

*Assumes the average retail price of AVGAS is $1.75/gallon and the average retail price of Jet Fuel is $0.90/gallon

TABLE 2.1
STATE AVIATION FUEL TAXES:
Aviation Gasoline

AL	3.6 cents/gallon on gas for GA and commercial use
AK	4 cents/gallon on gas for GA and commercial use
AZ	5 cents/gallon on gas for GA and commercial use
AR	4% sales tax on gas for GA and commercial use
CA	9 cents/gallon on gas for GA use with refund
CO	None
CT	2.0% sales tax on gas for GA and commercial use plus 6 cents/gallon on gas for GA use is applied at state-owned airports
DE	16 cents/gallon on gas for GA use with refund
FL	5.7 cents/gallon on gas for GA and commercial use
GA	1 cent/gallon plus 3% sales tax on gas for GA use; 3% sales tax on gas for commercial use
HI	1 cent/gallon on gas for GA and commercial use
ID	3.5 cents/gallon on gas for GA and commercial use
IL	6.25% sales tax on gas for GA and commercial use
IN	5% sales tax on gas for GA use
IA	8 cents/gallon on gas for GA and commercial use
KS	4% sales tax on gas for GA and commercial use
KY	15 cents/gallon on gas for GA use with refund
LA	1% sales tax on gas for GA and commercial use
ME	14 cents/gallon on gas for GA and commercial use
MD	5 cents/gallon on gas for GA use
MA	None
MI	3 cents/gallon plus 4% sales tax on gas for GA and commercial use; 1.5 cents/gallon refund to carriers with scheduled service
MN	Sliding tax rate from 5 cents/gallon to 1/2 cent/gallon on gas for GA and commercial use based upon quantity purchased annually
MS	6.4 cents/gallon on gas for GA and commercial use
MO	11 cents/gallon on gas for GA and commercial use with refund
MT	1 cent/gallon on gas for GA and commercial use
NE	5 cents/gallon on gas for GA and commercial use
NV	13 cents/gallon on gas for GA and commercial use with refund
NH	4 cents/gallon on gas for GA and commercial use
NJ	10 cents/gallon on gas for GA use with refund
NM	13 cents/gallon on gas for GA use with refund
NY	8 cents/gallon state excise tax on gas for GA and commercial use with refund plus 4% sales tax on gas for GA use
NC	3% sales and use tax on gas for GA and commercial use
ND	8 cents/gallon on gas for GA and commercial use with refund
OH	5% sales tax on gas for GA use
OK	.0008 of 1 cent/gallon for GA and commercial use
OR	3 cents/gallon on gas for GA and commercial use
PA	3.3 cents/gallon on gas for GA and commercial use
RI	15 cents/gallon on gas for GA and commercial use with refund
SC	5% sales tax on gas for GA use
SD	6 cents/gallon on gas for GA and commercial use
TN	4.5% sales tax on gas for GA and commercial use
TX	None
UT	4 cents/gallon on gas for GA and commercial use
VT	13 cents/gallon on gas for GA use
VA	5 cents/gallon on gas for GA and commercial use up to 100K gals; .05 cents/gallon for aviation consumers using more than 100K gals annually
WA	Greater of 3% or 5 cents/gallon plus 6.5% sales tax on gas for GA use
WV	4.85% sales tax on gas for GA and commercial use
WI	6 cents/gallon on gas for GA use
WY	4 cents/gallon on gas for GA and commercial use

TABLE 2.2
STATE AVIATION FUEL TAXES:
Jet Fuel

AL	1.2 cents/gallon on fuel for GA and commercial use
AK	2.5 cents/gallon on fuel for GA and commercial use
AZ	5% sales tax on fuel for GA and commercial use
AR	4% sales tax on fuel for GA and commercial use
CA	2 cents/gallon plus 6% sales tax on fuel for GA use; 6% sales tax on fuel for commercial use
CO	3% sales tax on fuel for GA use
CT	2% sales tax on fuel for GA and commercial use plus 6 cents/gallon on fuel for GA use is applied at state-owned airports
DE	None
FL	5.7 cents/gallon on fuel for GA and commercial use; air carrier option to pay 8% sales tax but not less than 4.4 cents/gallon pro-rated
GA	3% sales tax on fuel for GA and commercial use
HI	1 cent/gallon on fuel for GA and commercial use
ID	3.5 cents/gallon on fuel for GA and commercial use
IL	6.25% sales tax on fuel for GA and commercial use
IN	8/10 of 1 cent oil inspection fee
IA	3 cents/gallon on fuel for GA and commercial use
KS	4% sales tax on fuel for GA and commercial use
KY	5% sales tax on fuel for GA and commercial use
LA	4% sales tax on fuel for GA and commercial use
ME	5% sales tax on fuel for GA and commercial use
MD	5 cents/gallon on fuel for GA use
MA	None (local option)
MI	3 cents/gallon plus 4% sales tax on fuel for GA and commercial use; 1.5 cents/gallon refund to carriers with scheduled service
MN	Sliding tax rate from 5 cents/gallon to 1/2 cent/gallon on fuel for GA and commercial use based upon quantity purchased annually
MS	5.25 cents/gallon on fuel for GA and commercial use
MO	4.225% sales tax on fuel for GA and commercial use
MT	1 cent/gallon on fuel for GA and commercial use
NE	3 cent/gallon on fuel for GA and commercial use
NV	1 cent/gallon on fuel for GA and commercial use
NH	None
NJ	2 cent/gallon on fuel for GA use
NM	2.15% of gross tax receipts on fuel for GA and commercial use
NY	10 cents/gallon plus 4% sales tax on fuel for GA use
NC	3% sales and use tax on fuel for GA and commercial use
ND	8 cent/gallon on fuel for GA and commercial use with refund
OH	5% sales tax on fuel for GA use
OK	.0008 of 1cent/gallon on gas for GA and commercial use
OR	1/2 cent/gallon on fuel for GA and commercial use
PA	1.8 cent/gallon on fuel for GA and commercial use
RI	15 cent/gallon on fuel for GA and commercial use with refund
SC	5% sales tax on fuel for GA use
SD	4 cent/gallon on fuel for GA and commercial use
TN	4.5% sales tax on fuel for GA and commercial use
TX	None
UT	4 cent/gallon on fuel for GA and commercial use
VT	4% sales tax on fuel for GA and commercial use
VA	5 cents/gallon on fuel for GA and commercial use up to 100K gals; .05 cents/gallon for aviation consumers using more than 100K gals annually
WA	Greater of 3% or 5 cent/gallon plus 6.5% sales tax on fuel for GA use
WV	4.85% sales tax on fuel for GA and commercial use
WI	6 cent/gallon on fuel for GA
WY	4 cent/gallon on fuel for GA and commercial use

2. User-Fee Generated Revenue

In addition to fuel taxes, a number of user funded revenue generation options are utilized by the states.

In addition to fuel taxes, states use a number of other user-fee revenue generation techniques to varying degrees. Most popular among these are:

- Aircraft Registration Fees (24 states)
- Airport Operating Income (18 states)
- Airport Licensing (14 states)
- Pilot Registration Fees (9 states)
- State Issued Bonds (9 states)

Table 2.3 documents, by state, which of these non-fuel tax options each state employs.

3. State Tax Program Considerations

States must consider revenue generation alternatives in the context of existing federal legislation and state capability.

A review of the tax material contained in this chapter, particularly by a state considering altering its tax basis, should not neglect several key questions:

- Does the revenue generated adequately off-set the administrative costs associated with the tax's collection? A corollary to this is the question: Can the tax be reasonably administered given the existing staff resources?
- What portion of the tax revenue generated by aviation is directed back to the state's or the local government entities' aviation programs? Aviation is a special interest which traditionally opposes taxes which do not, to some extent, return to support aviation needs.
- Will the tax overburden and thus constrict the health of any segment of the aviation community?

States evaluating new or revised tax programs must do so in light of existing federal tax programs and regulatory requirements. The states are, unfortunately, somewhat constrained by the federal government's past actions. The level of the federal excise tax on aviation fuels (both AVGAS and jet fuel), as with the level of many other federal tax programs, restricts ,somewhat, a state's ability to utilize user fees to generate revenue. An example is the federal prohibition of airports imposing

a "head tax." A "head tax" is a per passenger charge imposed by the airport for use of the facility. The federal 8% tax on airline passenger tickets preempts the collection of such a charge.

Further, the uncommitted balance in the federal Aviation Trust Fund (which currently exceeds $5.8 billion) has presented a stumbling block to some states' efforts to obtain additional revenues. The perceived magnitude of the surplus has caused elements of the aviation community to oppose further user taxation until federal taxes already paid are properly committed. States considering new or revised tax strategies should be prepared to address these concerns.

TABLE 2.3
NON-FUEL REVENUE GENERATION SOURCES

	Airport License	Pilot Regis.	Aircraft Regis.	Airport Ops.	Bonds	NOTES:
AK				Y	Y	
AL				Y		
AR						Sales tax on aircraft and parts
AZ			Y			Flight property tax; Interest on aviation fund; Aircraft in-lieu tax
CA						Sale of publications; Interest on aviation fund; Sales tax on aircr
CO			Y			Sales tax on aircraft and parts
CT	Y			Y	Y	Sales tax on aircraft and parts
FL	Y				Y	Sale of publications
GA	Y					Sales tax on aircraft and parts
HI			Y	Y		
IA			Y			Sales tax on aircraft and parts
ID		Y	Y			Miscellaneous income; Sale of airport maintenance materials
IL		Y	Y		Y	
IN			Y			
KS						Sales tax on aircraft and parts
KY				Y		Sales tax on aircraft and parts
LA				Y		
MA			Y	Y	Y	Sales tax on aircraft and parts
MD	Y			Y		
ME	Y		Y	Y	Y	Sales tax on aircraft and parts
MI	Y		Y			Sale of publications; Sales tax on parts; Interest on aviation fund; Miscellaneous program revenues
MN	Y		Y			Interest on aviation fund; Tax on airline flight property
MO					Y	Sales tax on aircraft and parts
MS						
MT		Y	Y	Y		Sale of publications; Resale program; Interest on aviation fund; Miscellaneous income
ND		Y	Y			Sale of publications; Sales tax on aircraft and parts; Miscellaneous income
NE				Y		
NH	Y	Y	Y	Y	Y	Aircraft operating tax in-lieu of personal property tax; Hangar rental; Income to repay bonds
NJ	Y					
NM			Y			
NY				Y	Y	Sales tax on aircraft and parts
OH			Y			Sales tax on aircraft and parts
OK			Y			
OR	Y	Y	Y	Y		Miscellaneous income
PA	Y			Y		Transportation services
RI			Y	Y		Sales tax on aircraft and parts
SC					Y	Sales tax on aircraft and parts
SD		Y	Y			Interest on aviation fund; Original registration tax
TX						Sale of publications; Interest income; Miscellaneous income; Sales tax on aircraft and parts
UT	Y					
VA	Y	Y	Y			Sales tax on aircraft and parts
VT				Y		Sales tax on aircraft and parts
WA	Y	Y	Y	Y		Sales tax on aircraft and parts
WV						Sales tax on aircraft and parts
WI			Y			Personal property tax on airlines

4. State Appropriation Levels

A variety of sources fund state aviation activities.

As tax collection options vary between the states, so too do the budget methods by which the funds are appropriated to the state's aviation agency. Normally, the source of agency funding is tied to the disposition of the user tax revenues. When the taxes/fees flow into a specific fund, it is from that fund which appropriations are most often made.

Table 2.4 presents the fiscal year 1988 agency appropriation levels for each state aviation agency. These values are expressed in thousands of dollars and have been segregated by their specific funding source. "General Fund" refers to the state's general tax revenue fund, while the "Aviation Fund" is normally established to receive aviation generated tax revenues which are considered dedicated to aviation programs. A state's "Highway Fund" receives motor vehicle fuel tax revenues plus other road and transit program funds. In some instances, all fuel taxes are deposited in the highway fund and distributions to the aviation agency, as well as the surface transportation agency, are made from this fund. A "Consolidated Transportation Fund" has been established by several states to fund all manner of transportation infrastructure needs. While fuel tax and other user-fee revenues may be deposited in a consolidated fund, it normally receives additional revenue from state bond issues and other non-user generated sources. As the name might imply, money in the consolidated transportation fund may be spent on any mode depending on the state's priorities.

TABLE 2.4
FISCAL YEAR 1988 AVIATION AGENCY FUNDING
(in thousands of dollars)

	General Fund	Aviation Fund	Highway Fund	Consolidated Transportation Fund	Other	TOTAL
Alabama		649				649
Alaska	15,424	55,816**				71,240
Arizona		5,164				5,164
Arkansas		2,500				2,500
California		5,126				5,126
Colorado	7					7
Connecticut				2,531	25,363**	27,894
Delaware	25					25
Florida				34,950		34,950
Georgia	2,984					2,984
Hawaii		143,189				143,189
Idaho		813				813
Illinois	254	150	5,373		900**	6,677
Indiana	1,504					1,504
Iowa		1,692				1,692
Kansas				244		244
Kentucky	1,486					1,486
Louisiana						0
Maine					1,000**	1,000
Maryland				67,161		67,161
Massachusetts	489	53		2,187		2,729
Michigan		7,025				7,025
Minnesota		12,400				12,400
Mississippi	20	147				167
Missouri	552	126			1,154**	1,832
Montana		433	34			467
Nebraska		1,773				1,773
Nevada				5		5
New Hampshire	794					794
New Jersey	125	1,300				1,425
New Mexico		800				800

	General Fund	Aviation Fund	Highway Fund	Consolidated Transportation Fund	Other	TOTAL
New York	5,800					5,800
North Carolina	5,162		774			5,936
North Dakota	460	625				1,085
Ohio	1,588		314	1,408		3,310
Oklahoma		536	800			1,336
Oregon		938				938
Pennsylvania		11,824				11,824
Rhode Island	5,382					5,382
South Carolina	3,200					3,200
South Dakota		622				622
Tennessee			1,900	7,400		9,300
Texas	979					979
Utah		6,048				6,048
Vermont				1,150		1,150
Virginia	315	4,101		10,099		14,515
Washington		1,188				1,188
West Virginia						0
Wisconsin				4,914		4,914
Wyoming	3,227					3,227

**NOTES

Alaska - Revenue for International Airports at Anchorage and Fairbanks
Connecticut - Bradley Airport Enterprise Fund
Illinois - State Air Transportation Fund
Maine - Biennial Bond
Missouri - Bond Issue

SECTION III:
AVIATION PROGRAM EXPENDITURES

This chapter summarizes aviation program expenditures for airport facility development including: grant-in-aid budgets, funding priorities, and loan programs. The chapter begins with a review of the FAA's Airport Improvement Program (AIP) to provide a context within which to review the states' activity. Expenditures for navigational aids (NAVAIDs) are not included in this section but will be discussed in Section IV: Activities to Enhance System Capacity and Utility.

1. The Federal Airport Improvement Program (AIP)

Federal airport planning and development project grants are funded through federal excise taxes paid by aviation users.

To meet its mandates of promoting aviation and ensuring air safety, the Federal Aviation Administration, since its inception in 1958, has been permitted to manage federal grants for airport planning and capital improvement projects. (The Federal Government, through predecessor agencies, has financed airport aid since 1946.) These grants were appropriated from the General Fund until 1970, when the Airport and Airway Trust Fund, and its grant program, the Airport Development Aid Program (ADAP), were established by Congress. The Trust Fund is based on set levels of passenger ticket taxes and other excise taxes and user fees.

Authority for the Trust Fund and its grant program expired in 1981 but was reauthorized by the Airport and Airway Act of 1982. Minor changes were made to the schedule of user fees for the Trust Fund and the grant program was renamed the Airport Improvement Program (AIP). The Act also defined the airports eligible for grants:

- **Commercial Service Airports** - publicly-owned airports which receive scheduled service and annually enplane more than 2,500 passengers.
- **Primary Airports** - commercial service airports which enplane at least .01 percent of the total number of passengers enplaned annually (ranged from 30,000 to 40,000 enplanements).
- **Reliever Airports** - airports specifically designated by FAA as relieving congestion at a commercial service airport. May be publicly, or privately owned.

- **Other Airports** - remaining airports, usually referred to as general aviation airports. Also includes privately-owned, public-use airports which receive commercial service and annually enplane more than 2,500 passengers.

Additionally, the Act required the FAA to publish a plan for the development of public-use airports. The resulting National Plan of Integrated Airport Systems (NPIAS) identifies all airports which are eligible for AIP grants.

With the 1987 expiration of the Act, the Trust Fund and its grant program (still known as the AIP) were reauthorized by the "Airport and Airway Safety and Capacity Expansion Act of 1987." Significant changes include:

- **Primary Airport**: newly defined as annually enplaning more than 10,000 passengers
- **Cargo Service Airport:** one served by cargo-only aircraft with an aggregate annual landed weight exceeding 100 million pounds.
- Specific direction on the use of discretionary funds for safety and capacity related projects.

The annual distribution of AIP funds is accomplished through the use of apportionments (based on set formulas) and discretionary grants.

1.1 Apportionment

Not more than 49.5% of all AIP funds are apportioned to primary airports and cargo airports by formulas based on the number of passenger enplanements or on the aggregate landed weight of all-cargo aircraft. No primary airport may be apportioned passenger entitlements less than $300,000 nor more than $16 million per year (in addition to any cargo apportionment). Cargo airports, taken together, may not be apportioned more than 3% of all AIP funds, or a maximum aggregate of $50 million. Individual cargo airports may not receive more than 8% of the total cargo apportionment.

Twelve percent of all AIP funds are apportioned to the states and insular areas based on an area/population formula. These funds are intended for projects at all except commercial service and primary airports. While this is considered an apportionment to address needs in each state, the FAA retains the authority for determining which airports receive grants.

The chart which follows lists the amount of the fiscal year 1989 state apportionment from the AIP budget. These funds will be spent, by the FAA, within each state for airport planning and development projects at non-commercial service airports. General Aviation airports, particularly

those serving small or rural communities, are the primary recipients of these grant funds. Given the increasing cost of any capital improvement project and the relatively limited amount of funds most states receive through the apportionment formula, states have sought, to the extent possible, to coordinate the FAA's grants with the state grant program.

FEDERAL AVIATION ADMINISTRATION
Airport Improvement Program
State Grant Apportionments
Federal Fiscal Year 1989

ALABAMA	$ 2,584,490	MONTANA	$ 3,592,555
ALASKA	13,440,630	NEBRASKA	2,308,131
ARIZONA	3,547,974	NEVADA	2,776,914
ARKANSAS	2,023,767	NEW HAMPSHIRE	541,791
CALIFORNIA	12,135,919	NEW JERSEY	2,851,094
COLORADO	3,387,176	NEW MEXICO	3,206,790
CONNECTICUT	1,250,125	NEW YORK	7,558,066
DELAWARE	268,870	NORTH CAROLINA	3,312,717
FLORIDA	4,918,940	NORTH DAKOTA	1,826,649
GEORGIA	3,302,887	OHIO	4,913,851
HAWAII	494,569	OKLAHOMA	2,668,303
IDAHO	2,221,347	OREGON	3,137,484
ILLINOIS	5,436,274	PENNSYLVANIA	5,328,157
INDIANA	2,805,394	RHODE ISLAND	370,233
IOWA	2,320,095	SOUTH CAROLINA	1,832,407
KANSAS	2,706,071	SOUTH DAKOTA	1,984,705
KENTUCKY	2,233,405	TENNESSEE	2,609,050
LOUISIANA	2,618,937	TEXAS	11,150,475
MAINE	1,179,991	UTAH	2,438,481
MARYLAND	1,799,826	VERMONT	401,307
MASSACHUSETTS	2,283,666	VIRGINIA	2,885,490
MICHIGAN	5,535,247	WASHINGTON	3,081,699
MINNESOTA	3,423,158	WEST VIRGINIA	1,250,426
MISSISSIPPI	1,997,215	WISCONSIN	3,192,296
MISSOURI	3,346,671	WYOMING	2,370,188

1.2 Discretionary

Money remaining after the apportionments is defined as discretionary, which means it can generally be used, by FAA, at any eligible airport. However, a sizeable portion must be used to meet minimum funding levels for certain categories, namely:

- 10% for reliever airports
- 10% for noise compatibility planning and projects
- 2.5% for non-primary commercial service airports
- 0.5% for integrated airport systems planning

The remaining discretionary money (about 15% of all AIP) must be used in the following manner:

- 75% at primary and reliever airports for capacity, safety, security & noise compatibility projects
- 25% granted to any eligible airport.

2. Factors that Affect State Funding Priorities

After safety, states consider preservation of the airport system as most deserving of attention and funding.

- States consider safety, facility preservation and economic development as top priorities when making funding decisions.

Prior to discussing the actual dollars expended by the state aviation agencies, it is beneficial to review the policy decisions that can affect which projects receive funding from the state. In order to determine these factors, state aviation staffs were asked to assign a rank of "1" (most important) to "5" (least important) to twelve "funding" factors. There was no restriction on how many times a rank could be used, only that all factors be ranked. The average rank assigned to each variable is presented in Table 3.1 in descending order from those ranked as the "most" to "least" important factors influencing state funding decisions.

In virtually all states, safety ranks first in consideration of all state agency activity. The next highest ranked factor makes the most significant statement of this report element: states consider "preservation" of the existing system of airports of utmost importance. The fact that states

emphasize maintenance of the system is also evidenced in state policy to fund "maintenance-type" projects. Nineteen states specifically listed funding for "operations and maintenance" at airports for the last year. Added to this is a number of state loan programs that permit use of the loaned funds for maintenance/preservation. In many states, the state/local project formulas include "preservation" as an eligible item, recognizing that the federal program does not permit such projects. (FAA's unwillingness to fund maintenance projects can actually act as a disincentive to a local airport sponsor, since by postponing preventive maintenance on an airport surface, the airport could possibly qualify for 90% federal funding of a "reconstruction" project.)

The potential economic impact arising out of the airport development was the third highest ranked factor. As is the case with facility preservation, economic impact is not a considered factor in the FAA's funding prioritization scheme. States, it appears, are recognizing the existence of a link between airports and economic development and therefore are willing to look upon airport development as more than merely a service to the aviation user community. This is being reinforced by local governments in their applications for state assistance. This report contains additional discussion on state economic/airport development initiatives in Section V.

The "need to enhance airport capacity" ranked seventh of the twelve factors listed. Telephone interviews with states explained this lower listing as a recognition that the most capacity-constrained airports are major hubs that are the focal point of federal aid program priorities and that have the availability of local funding through both general obligation and revenue bonds. The federal government program logically provides leadership that addresses the national ramifications of major hub congestion while the states interpret their role as supplementing the national system by emphasizing preservation. Another reason for this relatively "low" ranking is that fact the in less populous states capacity is not a critical issue.

TABLE 3.1
RANK ORDER OF FACTORS THAT AFFECT FUNDING PRIORITIES OF STATE AVIATION AGENCIES

Rank 1 = Most Important Factor
Rank 5 = Least Important Factor

FACTOR	RANK
Safety	1.32
Preservation	2.04
Economic Impact	2.09
FAA Funding Commitment	2.11
Inclusion in State Aviation Systems Plan	2.17
Availability of Local Funds	2.38
Capacity	2.56
To Meet FAA Design Standards	2.81
Current FAA Priorities	3.09
Tourism	3.17
Inclusion in the NPIAS	3.59
National Significance of Airport	3.85

After safety, preservation, and economic impact, come the factors "FAA funding commitment," "inclusion in state aviation system plan" and "availability of local funds." This grouping recognizes the important and interdependent partnership that must exist between all three levels of government. The federal government's interest in a project is an indication of the national significance of a particular project. The inclusion in the state system plan recognizes the systems approach at a level of government appropriately close to the population and distant from the exclusive local demands. The availability of local funds to share in the fiscal responsibility, while often quite difficult to obtain at smaller community airports, is an important factor in federally-eligible projects as well as state/local efforts. In many cases the state will fund 80% of a project if the local sponsor can provide 20%, to expedite a project that might otherwise wait indefinitely for limited federal funding.

"Current FAA priorities," "inclusion in the NPIAS (National Plan of Integrated Airport Systems)" and "national significance of airport," of course, are all important elements for the federal program. These factors appear at the bottom of the state prioritization list.

The single surprise of the listing is the ranking of tourism - number 10 of 12. Fifteen states ranked tourism as a number one or number two priority. In many other states the high ranking of economic impact no doubt relates to the tourism industry.

3. Program Expenditures

In the past fiscal year, states provided $504 million dollars of which over $2 million was for public-use/private-owned facilities.

Aviation Related Expenditures by States Fiscal Year 1988

$466,421,000	*Airport Development, O&M and Planning (see Table 3.2)*
5,667,395	*Miscellaneous Aviation-Related Programs*
8,581,416	*NAVAIDS (see Section IV for further discussion)*
$480,669,811	
23,790,305	*Loans to Public-owned Airports*
$504,460,116	

The states expended over $504 million for airport planning, development and operation during fiscal year 1988. Close to $70 million of these funds were specifically used to match federal airport improvement (AIP) grants. Additionally, over $23 million in state funds has been loaned to local government entities for airport projects.

Table 3.2 summarizes state aviation agency expenditures for capital improvements, operation and maintenance (O &M) and planning, broken down by the airport's ownership and classification.

TABLE 3.2
STATE AVIATION AGENCY EXPENDITURES
(in thousands of dollars)

CAPITAL IMPROVEMENTS*

Airport Ownership	Primary	Non-primary	Reliever	GA
State-Owned	179,607	4,596	3,173	9,774
Other Public-Owned	42,997	4,697	14,939	42,029
Private-Owned	0	0	840	972

OPERATIONS & MAINTENANCE*

Airport Ownership	Primary	Non-primary	Reliever	GA
State-Owned	138,778	3,805	3,462	4,346
Other Public-Owned	2,140	1,233	804	4,062
Private-Owned	0	0	27	274

PLANNING

Airport Ownership	Primary	Non-primary	Reliever	GA
State-Owned	1,349	162	200	706
Other Public-Owned	547	134	131	635
Private-Owned	0	0	2	0

TOTALS

Airport Ownership	Primary	Non-primary	Reliever	GA
State-Owned	319,734	8,563	6,835	14,826
Other Public-Owned	45,684	6,064	15,874	46,726
Private-Owned	0	0	869	1,246
Total	**365,418**	**14,627**	**23,578**	**62,798**

*States have not used a standard definition for projects that are "capital improvements" versus those that are for "operations and maintenance." For example, some states will consider a runway overlay project as a capital improvement while others may look upon it as a maintenance-related expenditure.

It is significant from Table 3.2 to note states are making grants to private-owned/public-use airports. Seven States made grants totally $1.8 million for capital improvements (Alabama, Illinois, New Hampshire, New Jersey, New York, Pennsylvania and Virginia); four States provided grants exceeding $300,000 for operation and maintenance (Delaware, Massachusetts, New Hampshire and Pennsylvania); and New Jersey provided a planning grant at a private-owned/public-use reliever airport.

Table 3.3 details by state, the amount of state funds expended for planning and development. Included in the total expenditures figure are the funds used to provide the local match to federal grants and the funds used in the state expenditure/grant/loan program for other than federal match. (The term "grant" is interchangeable with "expenditures." Technically, states that own/operate airports do not "grant" money to themselves in the strict sense of the word.)

Examination of Table 3.3 indicates that of the states which have grant programs, three do not match federal grants: Minnesota, California and Iowa. These States do, however, have very large state grant programs. Their available grant money is spent on projects that would not otherwise be eligible for federal funding or which has a lower federal funding priority. This use of funding resources can benefit to a larger number of facilities within the state. In the unique case of California, the state makes an annual grant of $5,000 to each eligible airport for a variety of purposes including capital improvements, maintenance projects or for use as the local match share to a federal program grant.

TABLE 3.3
STATE AVIATION AGENCY EXPENDITURES FOR AIRPORT PLANNING AND CAPITAL IMPROVEMENT

State	Fiscal Year	Amount Used to Match Federal Grants	State Expenditures NOT used to Match Federal Grants	TOTAL OF STATE EXPENDITURES
Hawaii	7/1-6/30 1988	$5,000,000	$124,000,000	$129,000,000
Alaska	7/1-6/30 1988	$3,300,000	$67,940,800	$71,240,800
Florida	7/1-6/30 1988	$6,566,500	$36,879,500	$43,446,000
Illinois	7/1-6/30 1988	$11,590,000	$4,500,000	$16,090,000
Virginia	7/1-6/30 1988	$10,000,000	$700,000	$10,700,000
Tennessee	7/1-6/30 1989	$125,000	$8,600,000	$8,725,000
Minnesota	7/1-6/30 1988	$0	$8,041,800	$8,041,800
Maryland	7/1-6/30 1988	$7,306,482	$165,201	$7,471,683
Arizona	7/1-6/30 1988	$300,000	$4,900,000	$5,200,000
North Carolina	7/1-6/30 1988	$1,976,522	$3,132,304	$5,108,826
Pennsylvania	7/1-6/30 1988	$2,626,000	$2,421,000	$5,047,000
Wisconsin	7/1-6/30 1988	$1,393,000	$2,367,700	$3,760,700
New York	4/1-3/31 1989	$3,700,000	$0	$3,700,000
South Carolina	7/1-6/30 1988	$1,750,000	$1,750,000	$3,500,000
Rhode Island	7/1-6/30 1989	$3,227,000	$0	$3,227,000
Georgia	7/1-6/30 1988	$484,014	$2,104,185	$2,588,199
California	7/1-6/30 1988	$0	$2,539,000	$2,539,000
Arkansas	7/1-6/30 1988	$200,000	$2,200,000	$2,400,000
New Mexico	7/1-6/30 1988	$639,324	$1,552,834	$2,192,158
Utah	7/1-6/30 1988	$400,000	$1,400,000	$1,800,000
Michigan	10/1-9/30 1988	$1,136,957	$652,684	$1,789,641
Iowa	7/1-6/30 1988	$0	$1,750,000	$1,750,000
Washington	7/1-6/30 1988	$180,000	$1,558,420	$1,738,420
Missouri	7/1-6/30 1987	$345,531	$1,257,404	$1,602,935
Ohio	7/1-6/30 1988	$221,079	$1,267,081	$1,488,160
Massachusetts	7/1-6/30 1988	$550,918	$914,490	$1,465,408
Indiana	7/1-6/30 1988	$1,125,000	$0	$1,125,000
Oklahoma	7/1-6/30 1988	$225,974	$733,824	$959,798
New Jersey	7/1-6/30 1988	$378,800	$530,900	$909,700
Wyoming	7/1-6/30 1988	$412,025	$458,805	$870,830
Connecticut	7/1-6/30 1988	$800,000	$0	$800,000
North Dakota	7/1-6/30 1988	$400,000	$260,000	$660,000
Nebraska	7/1-6/30 1988	$257,921	$381,122	$639,043
Delaware	7/1-6/30 1989	$400,000	$161,000	$561,000
Montana	7/1-6/30 1988	$519,680	$2,000	$521,680
South Dakota	7/1-6/30 1988	$420,000	$100,000	$520,000
Maine	7/1-6/30 1988	$318,267	$189,706	$507,973
Alabama	10/1-9/30 1988	$48,149	$425,351	$473,500
New Hampshire	7/1-6/30 1988	$120,000	$315,092	$435,092
Kentucky	7/1-6/30 1989	$161,000	$225,000	$386,000
Vermont	7/1-6/30 1989	$200,000	$0	$200,000
Idaho	7/1-6/30 1988	$118,000	$55,250	$173,250
Oregon	7/1-6/30 1988	$89,984	$0	$89,984
Texas	9/1-8/31 1988	$14,120	$0	$14,120
Kansas	7/1-6/30 1988	$13,300	$0	$13,300
Nevada	7/1-6/30 1988	$3,000	$0	$3,000
West Virginia	7/1-6/30 1988	$0	$0	$0
Colorado	7/1-6/30 1988	$0	$0	$0
Louisiana	7/1-6/30 1988	$0	$0	$0
Mississippi	7/1-6/30 1988	$0	$0	$0
TOTALS:		$69,043,547	$286,432,453	$355,476,000

4. Federal/State/Local Matching Formulas

In the past fiscal year, 43 states leveraged over $69 million for nearly nine times that amount in federal grants for airports.

The federally-funded percentage of costs for a project at or associated with an individual airport is:

Type of Project	Type of Airport	
	Large Primary Airports[1]	All Other Airports
Individual Airport Planning	75	90
Airport Development	75	90
Noise Program Implementation	80	80 or more
Terminal Development	75	75[2]
Systems Planning[3]		90

[1]Large primary airports are primary airports that enplane .25 percent or more of the total annual enplanements. About 70 airports qualify.
[2]This rate is applicable only to commercial service airports. Remaining airports are ineligible.
[3]Systems planning grants are made to state, regional and metropolitan planning agencies

Forty-three state aviation agencies allocate a portion of their aviation budget to programs which provide for the matching of federal funds for particular airport improvement projects. Many of these projects are of the type for which the federal share is 90 percent of the project cost. The state assumes a portion of the local share of the project, often to the 50, 75 or even 100 percent level. In essence, the state and local government use their possibly limited (in comparison to federal expenditures) budget to gain substantial and expensive capital improvements for airports.

The following table (Table 3.4), reports the programs which match federal grants with state funds. Thirty-two of the states make use of the standard matching formula 90%/5%/5% (federal/state/local), though not necessarily exclusively. This table lists those states that use the 90/5/5 match formula, any conditions placed thereon, if applicable, as well as other formulas used by the state and their condition(s). An aggregate of just under $70 million state dollars were spent matching federal funds for airport improvement in the past year.

TABLE 3.4
STATE GRANT MATCHING FORMULAS: FEDERAL/STATE/LOCAL

STATE	90/5/5 FORMULA	CONDITIONS	OTHER FEDERAL/STATE/LOCAL FORMULAS AND CONDITIONS
Alabama	Y		90/10/0: for capital improvement on state-owned airports
Alaska			93.75/6.25/0: for state sponsored airport improvements except terminals 93.75/0/6.25: for locally sponsored airport improvement projects except terminals 50/50/0: for terminal projects at commercial service airports only
Arizona	Y		
Arkansas	Y		
Connecticut			90/7.5/2.5: federally-eligible projects (for non-state owned airports)
Delaware			state may pay up to 10% local match share if local government is unable
Florida	Y	General Aviation-construction	75/12.5/12.5: primary airports construction excluding terminals 50/25/25: terminal projects -projects non-revenue producing portion
Georgia	Y	Capital improvements excluding hangars, terminals, CFR equipment, land acquisition and Airport Master Plans	
Hawaii			90/10/0: primary airport planning, airport construction/equipment and land acquisition 75/25/0: non-primary airport planning, airport construction/equipment and land acquisition 75/25/0: terminal construction 80/10/0: noise program implementation
Idaho	Y	Any projects other than buildings or purchase of equipment any airport eligible	
Illinois	Y	No buildings or equipment are funded with state money	75/20/5: Midway Airport 75/25/0: O'Hare Airport
Indiana	Y		The state does not fund the largest primary airport
Kentucky	Y		
Maine	Y		
Maryland	Y		
Massachusetts			90/7.5/2.5: AIP approved projects (can be 90/10/0)
Michigan	Y	Up to $250,000 per airport/per year	
Minnesota			90/0/10: for federally-eligible projects 50/40/10: terminal buildings 75/12.5/12.5: Minneapolis-St. Paul projects
Mississippi	Y	When funds are available - for air side development projects	
Missouri	Y		

"Y" - State Participates in a 90%/5%/5% Federal-State-Local Matching formula for airport planning and development grants.

STATE	90/5/5 FORMULA	CONDITIONS	OTHER FEDERAL/STATE/LOCAL FORMULAS AND CONDITIONS
Nebraska			75/3/22: Small hub airports 90/3/7: All others ($100,000 maximum per airport per year)
New Hampshire	Y		
New Jersey	Y	Based upon availability of funds and Division's evaluation of the local entity's needs for assistance	State share may range from 0% to 10% based upon availability of funds and division's evaluation of the local entity's needs for assistance
New Mexico	Y		
New York			90/7.5/2.5: for GA and reliever airports 75/18.75/6.25: for air carrier airports
North Carolina	Y	Except new airports	90/8/2: for initial construction of new airports
North Dakota	Y	GA airports identified in NPIAS	Commercial Service Airports use State Block Grants for 10% local share
Ohio	Y		
Oklahoma			90/10/0: up to $50,000 for city's 10% share
Oregon	Y	When funds are available	
Pennsylvania	Y		State portion varies from 5 to 7.5
South Carolina	Y	Any project that is not revenue producing, nor fee simple acquisition of land.	
South Dakota	Y	Max $100,000 for Air Carrier Terminal Projects.	
Tennessee	Y	At GA airports	
Texas	Y	When funds are available	
Utah	Y		
Vermont			90/10/0: State-owned airports 90/6/4: Burlington and Fair Haven Airports (Municipal) Capital for construction/planning projects
Virginia	Y		
Washington	Y	Primary surfaces only	
West Virginia	Y	When funds are available	
Wisconsin	Y		
Wyoming	Y	Lower priority projects (e.g., hangars, maintenance equipment, parking lots, etc.)	90/8/2: usually for all projects of high priority (e.g., runway, taxiway, etc.)

"Y" - State Participates in a 90%/5%/5% Federal-State-Local Matching formula for airport planning and development grants.

5. State/Local Funding Formulas

Thirty-seven states had a combined budget of over $286 million for airport improvement programs exclusive of federal involvement.

Thirty-seven states reported expenditures in the last fiscal year within state programs to provide grants and loans, independent of any federal participation, for a variety of airport projects. Many of these projects are ineligible for federal participation or have a low federal priority. An aggregate total of over $286 million was expended by these states for everything from routine maintenance, to hangars, to new airport construction.

In most instances the state's participation in a project requires some matching financial participation by the local airport owner/sponsor. Thirty-five states, having funded airport improvement grant programs, reported the use of specified formulas for distribution of these funds. Table 3.5 presents the state/local share formulas associated with state grants.

TABLE 3.5
STATE GRANT MATCHING FORMULAS: STATE/LOCAL

STATE:	STATE/LOCAL FORMULA AND USES:
Alabama	50/50: for non-federal projects or in anticipation of federal projects
Arkansas	50/50: for all approved state applications
Arizona	90/10: for primary airport system; May fund FAA type projects not included in FAA program, plus auto parking, access roads and minor pavement preservation projects 95/5: for secondary airport system
California	90/10: for capital improvements 100/0: for state annual grant of $5,000 to each eligible airport
Connecticut	75/25: all eligible projects
Delaware	100/0: state may pay up to 100% if local government cannot is unable - no set formula
Florida	100/0: demonstration projects 75/25: land acquisition 50/50: normal grants 90/10: resource airports - identified as a facility needed to meet future demands
Georgia	50/50: capital improvements excluding hangars, terminals, CFR equipment & land acquisition 50/50: airport planning as needed 75/25: airport operations improvements (non-routine maintenance) & approach aids 100/0: pavement markings
Iowa	70/30: airport improvements; planning grants 50/50: facilities and equipment
Idaho	50/50: for any projects other than buildings or purchase of equipment - any public-owned, public use airport eligible 75/25: at Board's discretion for communities of less than 5,000 population
Illinois	50/50: new airports and high federal project priority and planning 80/20: existing airport and low federal project priority
Kentucky	50/50: for federally-eligible projects (low priority) plus hangars, pavement, NAVAIDs, administrative buildings and pavement maintenance
Massachusetts	70/30: non-federally eligible maintenance 50/50: all other projects 100/0: by state legislation only
Maryland	50/50: projects for which federal funds are not available; access roads; lighting rehabilitation; landside projects not eligible for federal funds
Maine	50/50: planning, design and some preservation
Michigan	50/50: for projects not eligible for federal funding - up to $50,000 per airports per year
Minnesota	66.66/33.33: all grants

STATE:	STATE/LOCAL FORMULA AND USES:
Missouri	50/50: capital improvement 75/25: airport maintenance
North Carolina	50/50: for all except new airports 80/20: for initial construction of new airports
North Dakota	50/50: state and local program at 92 general utility public-use airports (75% of these funds goes toward maintenance and safety; 25% for expansion)
Nebraska	50/50: landside development (land, aerial approach aprons, fencing, access roads, etc.) 90/10: airside development (runway, taxi, apron, NAVAIDs, ALPs) 75/25: pavement preservation program
New Hampshire	50/50: for airports not eligible for federal AIP funds
New Jersey	100/0: $50,000 per year for up to two years or $100,000 per project 90/10: projects over $100,000
New Mexico	50/50: this applies for any project at any airport
Ohio	90/10: resurfacing is core of program, runway, drainage for runways, taxiways and aircraft parking ramp projects (NOTE: may go to 100% on AWOS installation in the future - this is tentative.)
Oklahoma	85/15: $50,000 maximum (no hangars, terminal buildings or access to privately owned hangars)
Pennsylvania	75/25: for all FAA AIP projects
South Carolina	50/50: participate in any project that is not revenue producing nor will we participate in fee simple acquisition of land
South Dakota	50/50: rehabilitation projects 75/25: new projects or projects to improve facility to minimum standards
Tennessee	75/25: safety items (e.g., approach clearing, landing and navaids) 75/25: development & maintenance items (e.g., land acquisition for airport improvement, runways and runway extensions and reconstruction, taxiways, runway and taxiway lights, aprons, seal coats, drainage, etc.) 50/50: development & maintenance items (e.g., some maintenance hangars, water-sewer facilities, auto parking, access roads, land acquisition, general maintenance)
Utah	50/50: maintenance: seal coat, lights, pavement
Virginia	80/20: for maintenance items (runway seal); capital improvements (parking, etc) 90/10: obstruction removal (no easements or land)
Washington	50/50: preferred ratio, but adjust as far as 90/10
Wisconsin	80/20: state aid capital improvement projects 50/50: terminal buildings to $100,000 maximum; seal coat and crack filling projects 100/0: for navigational aids 50/50: for federally eligible projects not federally funded
Wyoming	80/20: for higher priorities (e.g., runway, taxiway, etc.) 50/50: for lower priorities (e.g., hangars, maintenance equipment, parking lots, etc.)

6. State Loan Programs

Twelve states made over $40 million in loans available to public-use airports; two states have loan programs for private-owned airports.

Twelve states made a total of $44,484,412 in loan dollars available to public-use airports. Slightly over half of this amount, $23,790,305, was actually loaned out. The loan programs were made available for a variety of purposes including land acquisition, hangar development, match of FAA grants as well as capital improvements. New Jersey reported that it has a loan program, however, the program is not currently used. The terms of the loans ranged from interest free to 7.5% and typically had three to ten year repayment terms.

Two States indicated that they can loan money to private-owned airports: Wisconsin and Maryland. The Maryland loan program was a new program effective July 1, 1988, with $200,000 to loan. Table 3.6 details these loan programs.

TABLE 3.6
STATE LOAN PROGRAM:
(LOAN TO PUBLIC-OWNED AIRPORTS UNLESS OTHERWISE SPECIFIED)

STATE	PURPOSE OF LOAN PROGRAM	$ AVAILABLE TO LOAN	$ ACTUALLY LOANED	TERMS
CA	Match FAA grants	783,624	783,624	Current state bond rate: 20 year simple interest
	Revenue producing projects	2,245,000	2,245,000	Current state bond rate: 10-15 year simple interest
FL	Land acquisition	4,119,200	4,119,200	0% interest - 10 year repayment
	Construct third runway	10,000,000	10,000,000	0% interest - 10 year repayment
KY	Projects not otherwise eligible for grants	944,000	577,077	6% for ten years
MD	Capitol improvement at private-owned/ public-use airports	200,000	0	New program effective 7/1/88
MI	Capital improvements	1,900,000	165,200	6% simple interest; 10 year re-payment
MN	Hangar development	3,608,930	1,681,204	0% Interest free; 10 year repayment
MT	Open	15,000,000	500,000	7.109%; 6 year repayment
NC	Hangar loan program			
NJ	Loans for materials only, no labor		0	2%; 10 year term
SD	Local share of airport improvement project costs	1,600,000	1,100,000	7.5% simple interest; 3 year payback; 1/3 per year.
TX	T-hangars, revenue producing facilities	83,658	0	5% for 20 years
WI	Land acquisition and pre-engineering cost at public-owned or private-owned airports	4,000,000	2,619,000	4% - 5 year repayment schedule
		$44,484,412	$23,790,305	

7. Miscellaneous Aviation-Related Program Expenditures

Beyond grants for O&M, planning and capital improvement, states spent more than $5.6 million for miscellaneous aviation related programs.

Twenty-eight states reported the expenditures of $5,667,395 on various miscellaneous aviation-related programs. Most frequently mentioned among these programs is the production and distribution of aeronautical charts (32 states) and airport directories (25 states). Several states aviation agencies share the cost of one or both of these documents with the states' tourism agency or visitors bureau.

Aviation or airport economic impact studies were also frequently mentioned as a source of state program expenditures. Twelve states reported funding economic impact studies in the most recently completed fiscal year alone.

There are several unique programs in which the states are involved. Arkansas and New Jersey have a safety program underway to mark telephone and powerline wires. The States of Iowa and New Jersey are funding Air Markers which are in essence navigational "road" signs, painted on rooftops.

North Dakota is particularly active in evaluating local community passenger air service demand and then assisting in the marketing of this demand to the carriers. Other state aviation agencies, particularly in the Midwest, are working with their commerce and economic development agencies to attempt to ensure an adequate and acceptable level of air service to support development initiatives.

Pennsylvania, in responding to the question, was alone in reporting an expenditure of state funds to support the implementation of aviation land-use compatibility zoning. For the 1988-89 time frame the state reports it will expend $98,200 to support this activity. Further discussion of the states' involvement in airport land-use compatibility is to be found in Section IV of this report: "Activities to Enhance System Capacity and Utility."

SECTION IV:
ACTIVITIES TO ENHANCE SYSTEM CAPACITY AND UTILITY

1. State Aviation Systems Plans

State Aviation Systems Plans are planning documents, partially funded by the federal government, which help direct actions to enhance and maximize the utility of airport capacity.

Since the 1970's, states have had a unique opportunity to establish a direction for airport development. The state systems planning process provides an avenue by which the states can identify and prioritize facility improvements. Currently, the FAA will fund, under the AIP grant program, up to 90% of a state's involvement in systems planning.

The state systems plan document typically includes the following elements:

- An inventory of all airports (existing and potential) whose operation is considered important within the context of the state's air transportation network.
- Forecasts or projections for the demand (aircraft operations and/or passenger enplanements) to be expected at each airport over the course of the planning period.
- Discussion of other demographic and economic factors which might impact upon a specific airport.
- Identification of development projects required for the airports within the system to handle the projected demand.
- Identification of potential funding sources (Federal, state and local) which could reasonably be expected to support these development needs.

Systematic plans encompass both airport facility development (runway, taxiways, etc.), as well as needs for new airport facilities (such as electronic navigation aids and weather collection/ dissemination units). In preparing its systems plan, the state selects those airports it considers significant based upon state-established entry criteria. Once identified, the systems plan airports are inventoried: the number of aircraft based at the airport and the extent and status of all facilities are determined.

Annual airport inspections, generally are an integral part of the systems plan, providing a process for frequent on-site validation of based aircraft and facility conditions. The findings can be provided to pilots (to aid flight safety) and to the airport sponsor accompanied by recommendations of corrective action that might be required. A convenient secondary benefit is an annually updated system inventory, the collection of which may be funded, to some extent, by the FAA.

Professionally prepared and regularly updated, the state systems plan establishes, in writing, the state's goals, priorities and objectives for airport facilities. These documents provide development direction for aviation facilities and for the local municipalities. The systems plan allows the state to go "on-the-record" supporting the development and preservation of adequate airport capacity. Such a record of support is often sought by the FAA as justification for their expenditure decisions. Further, in addressing the needs for navigational aids and land use compatibility, the systems plan directs the state's actions to maximize the utility of existing capacity.

All fifty states currently have state aviation systems plans of various vintage, some rather recent and others dated. The most frequently cited use of a systems plan is as an informational and reference document. Secondly, and cited nearly as often, is the use of the plan as a basis for decisions regarding state fund expenditures. Thirty-six states have reported that their plan identifies specific development projects to be funded.

1.1 Capital Investment Plan

Capital Investment Plans help coordinate funding priorities.

Through the State Aviation Systems Planning (SASP) process, the systems plan becomes an important first step in the programming of Federal and state capital improvement funds. A concept receiving increasing support at all levels is to annually prepare statewide airport capital investment plans (CIP). The CIP document would draw from the normally unconstrained listing of development projects contained in the systems plan and would present a 5-year program for the expenditure of Federal, state and local funds. This document would include a full consideration of all variables which might impact upon the project's funding or timing.

Nationally, with 50 systems plans updated and completed, the federal government and the states can prepare a program of expenditures responsive to local and state air transportation needs. These

capital investment plans in conjunction with a national capital investment plan, could set a course for the effective use of combined federal and state resources.

2. Compatible Land-Use Protection to Enhance Capacity and Utility

It is the state and local governments' responsibility to ensure airport and airspace land use compatibility, without relying on the Federal government.

Misconceptions exist concerning the role of the federal government with respect to land-use control for airport and airspace protection. This role must be clearly understood before the role of state and local governments can be fully addressed. FAA's involvement is concentrated in two areas. Federal Aviation Regulations (FAR) Part 77, requires the FAA to review proposed new construction for impact upon the airspace. Further, obligations attached to federal AIP grants require local sponsors to institute appropriate land-use compatibility controls.

2.1 Airspace Protection

FAR Part 77 simply requires that FAA be notified of the proposed construction of certain structures, and empowers the FAA to perform a study of the structure's impact on aviation. (A similar study is conducted for all new airports or airport expansion projects.) This airspace review evaluates the magnitude of the anticipated impact of the structure's construction on airspace use and/or operating procedures. Further, the study suggests the extent to which these would be altered to accommodate the structure. FAA has no authority to "regulate" or prevent the construction of structures. FAA maintains that Congress specifically withheld such authority to prevent federal government intervention in land-use control, which is historically a state and/or local prerogative. Thus, the determination rendered as a result of an FAA airspace review is strictly an advisory recommendation.

2.2 Land-Use and Zoning

In the area of airport compatibility land-use and zoning, FAA's involvement is through the language of the Part V Grant Assurances. These assurances are legal obligations to the Federal government incurred when an airport sponsor accepts a federal grant for an airport improvement.

Specifically, FAA requires the airport sponsor to, ". . . take appropriate action, including the adoption of zoning laws. . . to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations. . . ." Further, the airport sponsor, ". . . will adequately clear and protect the aerial approaches to the airport. . ." (A 1987 amendment to the Act provides more precise language for this assurance). It should suffice to say that FAA relies on local initiative to provide airport environs land-use compatibility control.

It is in light of these FAA limitations, that the true importance of the state or local governments' responsibility to enact and enforce land-use controls that genuinely protect the airport's environs and airspace must be seen. While most states recognize local governments' authority to enact appropriate zoning, it is misleading to assume that this actually takes place. Local governments may lack the initiative to perform the duty or may not be properly informed on airport/airspace matters to do the job adequately. While states could assume zoning powers, or require that local governments zone to a specific standard, only six state aviation agencies have indicated that they are involved in regulating airport-compatible land use.

In a separate but closely related issue, Table 4.1 reveals that only sixteen states regulate tall structures which may impact airport/airspace use. Nineteen states regulate those obstructions that are actually identified as hazards.

Oregon may have the most structured format for state involvement. The Oregon State Department of Land Conservation and Development requires cities and countries to develop comprehensive land-use plans. These are to include protection of all public-use transportation facilities. During the states' review, the Division of Aeronautics requires implementation of airport overlay zones, whenever possible, to protect against obstructions and non-compatible uses.

Such strong reliance on local government land-use control carries the potential for the loss of navigable airspace and derogation of airport utility when this function is not properly understood and administered. Apart from the issue of protecting the public investment in airport facilities and the utility of the airspace, proper land-use controls also carry environmental benefits. Compatible land utilization restricts the proximity of residential development and reduces the need to finance noise studies and mitigation measures. In the last fiscal year, twenty-one states spent over $12 million on noise impact studies or mitigation efforts, with the majority of these funds ($8.7 million) spent on land acquisition.

TABLE 4.1
REGULATION OF
HAZARDS, TALL STRUCTURES AND ZONING

DOES THE STATE AVIATION AGENCY REGULATE THE FOLLOWING?

STATE	IDENTIFIED AIRPORT HAZARDS	PROPOSED TALL STRUCTURES	COMPATIBLE LAND-USE ZONING
Alabama	YES (Pending)	YES (Pending)	YES (Pending)
Connecticut	YES	YES	NO
Florida	YES	YES	NO
Hawaii	YES	YES	NO
Idaho	YES	YES	NO
Illinois	YES	NO	NO
Indiana	YES	YES	YES
Kentucky	YES	YES	NO
Maryland	YES	YES	NO
Michigan	YES	YES	YES
Minnesota	YES	YES	NO
Mississippi	YES	NO	NO
Nebraska	NO	YES	NO
New Jersey	YES	NO	YES
North Dakota	YES	NO	YES
Oklahoma	YES	NO	NO
Oregon	YES	YES	NO
Pennsylvania	YES	YES	YES
South Dakota	YES	YES	NO
Virginia	YES	NO	NO
Washington	NO	YES	NO
Wisconsin	NO	YES	NO
TOTAL	19	16	6

3. Navigational Aids (NAVAIDs) Installation/Operation

States recognize the importance of investing in navigation aids as a contribution to increased system capacity.

The role of the state aviation agencies in purchasing and maintaining navigational aids (NAVAIDs) has great impact on the utility and capacity of airpor n both the local and national level. Installation of navigational aids results in an increase in the number of landing facilities available for handling night and inclement weather operations. This ultimately results in an increase in total system capacity. The size of the states' investment has increased in recent years demonstrating their recognition that money expended for navigation and landing aids at existing facilities is an important investment contribution to an increase in system capacity.

What NAVAIDs contribute to the state's aviation system is difficult to quantify, but intuitively it is easy to appreciate their contribution to improved flight safety. Additionally, a NAVAID may increase the average number of hours per day and/or days per year during which the airport may be used. This translates directly into increased available runway capacity at that location and for the entire system.

Visual NAVAIDs include various forms of lighted and unlighted indicators which provide flight guidance information to the pilot. Most common are windsocks for wind direction information which is needed for planning a take-off or landing and visual approach guidance lights which assist a pilot in flying a smooth and safe approach to landing.

Electronic NAVAIDs emit radio signals which are received, interpreted and displayed by various cockpit instruments. Much airport-to-airport or en route navigation relies upon the national system of Very High Frequency, Omni-directional Range (VOR) transmitters. Near the airport, pilots will use various electronic landing aids, such as the Instrument Landing System (ILS), or the Microwave Landing System (MLS) which provide horizontal and vertical information or simply a Localizer (LOC) providing horizontal guidance information.

Two new elements of hardware are also included under the broad category of NAVAIDs. These assist with the collection and dissemination of aviation weather. Both are significant because, nationally, it is the states which have taken the lead role in adoption of automated technologies after the FAA first established the necessary design and operational standards. The Automated Weather

Observation System (AWOS) is a weather collection and local dissemination unit and the Weather Briefing Units provide pilots with access to national weather and flight planning data prior to their departure.

A common misconception may be that only the federal government is involved in purchase and operation of navigation and landing aids. The results of this survey indicate a remarkably active involvement by the states. Table 4.2 summarizes the states' involvement in the purchase and maintenance of navigational aids *funded solely by state or state and local government(s).* These NAVAIDs were purchased by states, with no federal involvement, during the past five years. Even when the relatively low-cost wind indicators are removed, states have established more than 1,400 facilities/instruments in the last five years. Table 4.3 indicates that just within the last fiscal year, 31 states expended $7,578,977 on NAVAID purchase and installation and 18 states spent $1,002,439 on NAVAID operation and maintenance.

TABLE 4.2
NUMBER AND TYPE OF NAVIGATION AIDS FOR WHICH STATE AGENCIES HAVE TOTALLY OR PARTIALLY FUNDED PURCHASE/MAINTENANCE IN THE PAST FIVE YEARS

Navigation Aid	# Purchased (State Only)	# Purchased (State Assisted)	# Maintained (State Only)	# Maintained (State Assisted)
NDB	70	106	51	75
ILS	3	24	3	0
VOR/TVOR	4	8	27	7
LOC	12	27	7	0
AWOS	18	43	8	9
VASI/PLASI/PAPI	74	199	83	130
CONTROL TOWERS	0	3	2	0
DME	4	7	30	0
MLS	0	4	4	0
AIRPORT BEACONS	103	320	83	199
APPROACH LIGHTS	21	42	9	21
UNICOMS	80	70	54	145
Weather Dissemination	106	43	2	17
Wind Indicators	845	438	179	127
Other*	39	45	18	0
TOTALS:	1,379	1,379	560	730

*Description of Other:

Arkansas.....(15) runway lights; (5) lighting remote control units
Georgia.....(9) local altimeters; (21) lighting remote control units
Massachusetts.....(3) Fan Markers; (10) SAWRS
Minnesota.....Remote Monitoring Units
Missouri.....Weather station equipment
New Hampshire.....(3) Fan Markers

Navigational Aid Terms:
NDB - Non-directional beacon
ILS - Instrument landing system
VOR/TVOR - Very high frequency omni-directional range
LOC - Localizer radio navigation antenna
AWOS - Automated weather observation system
VASI/PLASI/PAPI - Visual approach guidance lights
CONTROL TOWERS - Air traffic control towers
DME - Distance measuring equipment
MLS - Microwave landing systems
UNICOMS - Airport communication radios

TABLE 4.3
STATE FUNDING FOR NAVIGATION AIDS
IN THE LAST FISCAL YEAR ('87-'88)

STATE	$ For Purchase & Installation	$ For Operation & Maintenance
Arizona	$50,000	$0
Arkansas	$53,500	$0
Colorado	$275,000	$0
Connecticut	$0	$28,000
Delaware	$5,000	$15,000
Florida	$1,021,000	$0
Georgia	$573,026	$0
Hawaii	$0	$500
Illinois	$460,000	$0
Iowa	$45,000	$0
Louisiana	$3,600	$0
Maryland	$7,480	$0
Massachusetts	$22,350	$28,844
Minnesota	$350,000	$380,000
Missouri	$170,000	$0
Montana	$16,404	$2,500
Nebraska	$7,000	$211,047
New Hampshire	$17,352	$46,753
New Mexico	$14,777	$0
New York	$2,900,000	$0
North Carolina	$359,000	$25,000
North Dakota	$8,000	$0
Oregon	$25,000	$3,400
Pennsylvania	$54,400	$0
Rhode Island	$0	$110,000
South Carolina	$9,000	$0
South Dakota	$0	$4,800
Tennessee	$25,000	$0
Utah	$70,000	$50,000
Vermont	$31,000	$17,000
Virginia	$915,000	$40,000
Washington	$51,000	$0
Wisconsin	$33,000	$21,000
Wyoming	$7,088	$18,595
TOTALS:	$7,578,977	$1,002,439

4. State Programs Aimed at Preserving Endangered Public-Use Airports

States are devising a variety of programs to preserve the growing list of endangered landing facilities.

- North Dakota may have best summed up many states' attitude by stating that their Aeronautics Commission envisions the state as the assistant manager of the 94 general aviation airports within North Dakota. Thus the state feels a vested interest to preserve these facilities.

The capacity of our national air transportation system is threatened by the insidious loss of aviation landing facilities. Between the years of 1977 to 1987, public-use landing facilities decreased by 17.1% from 6,902 to 5,723. In 1987 alone, 66 public-use facilities were abandoned. The majority of the endangered airports are privately-owned, thus lacking the financial support and land-use compatibility protection of a government entity. The loss of these facilities amplifies the current capacity shortage as it concentrates demand at fewer and fewer facilities.

There are many vehicles that states have devised to ensure the future of the airport facilities in their respectives jurisdictions. Table 4.4 lists specific action items employed by the states. These include a variety of measures ranging from property tax relief to out right state purchase of endangered airports. The state of Michigan is currently drafting a publication, "Endangered Airports - An Effort Toward Preservation," which proposes state participation in the local cost of purchase and a three year guarantee of zero operational costs for approved airport sponsors. Additionally, several states mentioned the consideration and development of grant-in-aid programs for private-owned airports.

The states were also asked to list airports currently not open for public-use which might have capacity relief potential (e.g., military joint-use airfields or existing private-use airports). Table 4.5 presents a list of the facilities suggested by the state aviation agencies. Twenty-three states identified at least one facility. Of note, over half the states identified military bases, many of which appear also in the Commission on Base Realignment and Closure report to the Congress published in late 1988.

TABLE 4.4
STATES AVIATION AGENCY-
(OR STATE GOVERNMENT) PROGRAMS AIMED AT
PRESERVING ENDANGERED PUBLIC-USE AIRPORTS

STATE	PROGRAM OR ACTION
Alabama	Recently obtained an Attorney General's opinion allowing the use of public funds for private-owned airports listed in the NPIAS plus hospital heliports.
Alaska	Private-owned or local-owned airports may be transferred to state ownership if the owner is unable to maintain the facility.
Delaware	State is completing a master plan to acquire the Delaware Air Park which is private-owned and is the sole general aviation airport serving the state capitol.
Florida	When federal funds are not available, the Department is authorized to fund up to 90% of master planning & capital projects at a publicly-owned, publicly operated Florida resource airport identified by the statewide aviation system plan as a facility needed to meet future state aviation system demands. Such funding is limited to airports that have no scheduled commercial service, that are owned by a city, county, or airport authority that does not have an airport with scheduled commercial service, and that have not received a federal capital grant in the last four years.
Indiana	Property tax relief is provided for those public-use areas of the airport.
Maryland	Maryland Aid to Private Airports provide for county acquisition of private airports in State System Plan and provides grants, loans and tax exemptions to those remaining in private ownership.
Massachusetts	Property tax relief and 70% state funding of safety and maintenance projects at all State Systems Plan airport sites.
Michigan	"Endangered Airports - An Effort Toward Preservation" is currently in draft form for review and approval by the Aeronautics Commission. Paper proposes state participation in the local share and a three year guarantee of zero operational costs for approved sponsors. Including privately-owned airports in the Airport Loan Program is being discussed currently.
Montana	Airports built primarily with Aeronautics Division funds in the past (when there were more funds available) have a reversion clause. That is, if the community no longer wishes to operate the airport, it reverts back to the state. Two airports in FY88 came back into our ownership. High cost of insurance was listed as reason.
New Hampshire	State provides aid and matching funds for capital improvement projects and the operation and maintenance of privately-owned open to the public airports.
New Jersey	(1) Air Safety and Hazardous Zones Act of 1983 establishing land-use standards in the immediate area of all public-use airports in NJ except those in Port Authority area; (2) Airport Safety Act of 1983 provides loans and grants for safety improvements at public-use airports in New Jersey.
North Carolina	Acquisition of private-owned airports using state grant funds.
North Dakota	Provides insurance contacts to inform management of liability coverage. The State Insurance Reserve Fund, at low cost to public entities, provides errors and omission coverage of officers.
Ohio	Contributes up to 5% of the total AIP project cost involving the acquisition of private-owned airports.

STATE	PROGRAM OR ACTION
Oregon	During review of comprehensive land use plans, submitted by cities and countries, the Division of Aeronautics requires implementation of airport overlay zones to protect against obstructions and non-compatible uses.
Pennsylvania	In addition to the state's grant program which provides for privately-owned airports through the tax rebate, runway rehab and marking programs, Pennsylvania has increased its efforts to implement adequate zoning protection for all public-use airports. A contract has been awarded to provide model ordinances for all unprotected airports.
Texas	State statutes provide property tax relief for private-owned, public-use airports.
Utah	State grant assistance is available for private-owned, public-use airports.
Vermont	Title 5, The State Aeronautics Act, provides the authority for State ownership of essential airports in order to preserve the system of airports.
Washington	The state addresses the problem by extending property tax relief to airports. If necessary, the state may acquire private-owned airports.

TABLE 4.5
NON-PUBLIC USE AIRPORTS WITH CAPACITY RELIEF POTENTIAL

STATE	NAME OF FACILITY WITH POTENTIAL FOR CAPACITY RELIEF
Alabama	Huntsville North
Alaska	Elmendorf Air Force Base (AFB) Delta Junction - Allen Army Airfield (AAF)
Arizona	Carefree, Buckeye Pierce, Stellar Air Park, Memorial Williams AFB, Luke AFB, Davis-Monthan AFB
California	Travis AFB; Moffett Naval Air Station (NAS); Norton AFB; March AFB; Miramar NAS; El Toro USMC; Los Alamito Armed Forces Reserve Center
Connecticut	Rentechler Airport, East Hartford
Delaware	Dover AFB (Currently joint-use GA - being upgraded for commercial/business use by Swearingen/Fairchild factory)
Florida	Elgin AFB
Georgia	Dobbins AFB Hunter AAF Robins AFB Lawson AAF
Hawaii	Barbers Point NAS Wheeler AFB Dillingham Airfield Bellows Field
Illinois	Scott AFB, Chanute AFB, Glenview NAS, Lewis University Airport, Champbell Airport, Nichols Airport, Olson Airport
Maryland	Tipton AAF Aberdeen Proving Grounds (Phillips AAF) Edgewood Arsenal (Weide AAF)
Massachusetts	Heliport owned and operated by Massachusetts Aeronautics available for use with prior written permission
North Dakota	Minot AFB Grand Fork AFB
Pennsylvania	Willow Grove NAS; Warminister NADC
Texas	Johnson City North Dallas Jetport Military airfields (approximately 24)
Virginia	Davison AAF
Washington	McChord AFB; Fairchild AFB; Gray AAF; Whidbey Island NAS; Coupeville (NAS control)

5. State Aviation Agencies' Coordination of Surface and Aviation Planning to Enhance Access to Airports

An airport is not an island; landside access to facilities results in increased system utility.

The utility of an airport is affected by ease with which the community can access its services, i.e., surface access to the facility. Although slightly more than half of the state aviation agencies provide financial assistance which specifically results in improved surface access to airports, they appear to be only peripherally involved with surface planning. Of thirty-seven states that reported any involvement in this planning aspect, only seven reported a *formal* liaison with other state transportation planners. The responses from these states are presented in Table 4.6.

TABLE 4.6
STATES AVIATION AGENCIES'
COORDINATION OF SURFACE AND AVIATION PLANNING
TO ENHANCE ACCESS TO AIRPORTS

STATE	PROCESS:
Alaska	Yearly Capital Improvement Program process: The DOT and Public Facilities is comprised of a Design and Construction Division, a Maintenance and Operations Division and a Planning and Programming Division. Each division is comprised of sections that coordinate highways, aviation and building and harbor projects. The divisions and sections work together to provide a coordinated plan of action.
California	Recently, the State Division of Transportation Planning published guidelines for regional transportation planning agencies requesting them to include "identification of measures designed to minimize the impacts of airport ground access congestion" in their regional transportation plans.
Kansas	State Aviation Systems Plan
Illinois	The Department of Transportation, Office of Planning and Programming has the responsibility for coordination of all intermodal planning including surface access to airports.
Nebraska	Circulation of proposed improvement projects with other state agencies - similar to old A-95 reviews.
New Hampshire	Through Metropolitan Planning Organizations and NH DOT staff meetings
Rhode Island	Rhode Island Executive Order 83-11 (recently cancelled) maintained a process similar to the form OMB A-95 Review Process. This process provides for inter-agency review and approval by the State Planning Council. This review process will remain in place. Aviation planning will be represented through this process.

SECTION V:
AVIATION'S CONTRIBUTION: TO THE STATE

1. State Economic Impact Studies

States publicize the positive financial impact of their airport system to ensure the general public will become aware of its significant contribution to the state's economy.

In an attempt to balance, in the public's mind, the expenditures necessary to meet aviation facilities' seemingly high costs, many states and local government entities have prepared economic benefit/impact studies. Using various methodologies, these have a common goal of attempting to quantify the fiscal and indirect benefits realized by a community, region or state as a result of aviation and aviation-related business activity. Table 5.1 provides a list of state prepared economic impact studies.

TABLE 5.1
ECONOMIC BENEFIT STUDIES
CONDUCTED BY STATE AVIATION AGENCIES

Alabama	1988	State Airport System Plan 2010
Alaska	1985	Economic Impact of the Anchorage Airport
Arizona	1984	Aviation Economic Impact Report
California	In Progress	Statewide study underway
Colorado	1985	Economic Benefits/General Aviation
Florida	1983	General Aviation Economic Assessment
Idaho	In Progress	Aviation Economic Benefit Study
Illinois	'82, '87	Economic Impact of Aviation; update underway
Kansas	1988	State Airport System Plan '88
Massachusetts	1988	Business Benefits and GA Access
Michigan	In Progress	Value of Airports to the Communities
Minnesota	In Progress	State Aviation System Plan
New Jersey	1979	Aviation Economic Impact Study
New Mexico	1983	Airport System Plan
North Dakota	1988	Economic Impact of Aviation in North Dakota
Ohio	1970	Econ Impact of Ohio Arpt. Development Program
Pennsylvania	1982	Econ Impact of Aviation PA; Update in Progress
Rhode Island	In Progress	Economic Impact Study
Tennessee	1988	State Aviation System Plan
Virginia	1986	VA Airports...An Economic Advantage
West Virginia	1988	Economic Impact Report-SASP Update
Wyoming	1985	Estimating the Economic Benefits of Airports

2. State Economic Development Strategies

Many states recognize the benefit of joining, in some manner, the aviation and economic development strategy of the state as a whole.

Being able to document aviation's economic impact is only a portion of most state programs to coordinate economic and aviation development. Over fifty percent of the states report that their airports are included as a portion of the state's economic development strategy. This may include priority use of aviation agency funds for airport projects with economic development links, and/or the use of economic development funding and assistance sources for airport-related projects.

Table 5.2 contains responses provided by the states detailing their joint aviation and economic development strategies within their states. While not all the states have a formalized process to coordinate these activities, it appears that all recognize the link between economic development and transportation.

TABLE 5.2
STATE AVIATION AGENCIES' ACTIVITIES INCLUDED AS PART OF THEIR STATES' ECONOMIC DEVELOPMENT STRATEGY

STATE	ECONOMIC DEVELOPMENT STRATEGY
Alaska	Project selection criteria includes the ability of the airport to foster economic development. A project receives a higher priority if it adds in the economic development of the State.
Arkansas	Aeronautics Department works closely with the Governor's Office and other state agencies trying to increase the economic opportunities of our State.
Georgia	Funding is appropriated by the legislature for airport development to attract industrial growth.
Iowa	Governor and legislature recognize transportation (including airports) as a key factor in economic development and have supported funding for airport improvements to increase the economic development opportunities for Iowa communities.
Illinois	Airport availability and development is a key component of the State Department of Commerce & Community Affairs Economic Development Strategy.
Kansas	Participation in economic development strategy is authorized by K.S.A. 75-05011 of the Kansas Statutes.
Maryland	As an operator of a major airline hub and international airport, the State Aviation Administration works closely with economic development groups to highlight Maryland's air transportation assets.
Michigan	Coordination between the Michigan Aeronautics Commission staff and the Department of Commerce on plant location and siting.
Minnesota	Economic Development is one of the priority justifications for airport improvement grants.
Montana	Airport development is within the infrastructure of state the economics development strategy. Legislation has been enacted authorizing sale of industrial revenue bonds for airport development. This program also administered by the Aeronautics Division.
North Carolina	Transportation infrastructure is part of state economic goals.
North Dakota	Director of the North Dakota Aeronautics Commission is a member of Economic Roundtable Committee. Director also serves as Chairman of the "Committee of 100" Transportation Subcommittee (Think tank for diversification of the economy of North Dakota).
Nebraska	Department of Aeronautics participates in an "All Nebraska" program for community improvement and development and participates, on request, with the State Department of Economic Development and individual communities for improvement projects.
New Hampshire	Through coordination between the Division of Aeronautics and the State Planning and Economic Development divisions.

STATE	ECONOMIC DEVELOPMENT STRATEGY
New Mexico	State Economic Development Plan (approved by the Governor in 1988) encourages inclusion of economic activity as development criteria in SASP.
New York	The state regulation under which airports are operated by the Department of Transportation Aviation Division contains mandate for economic development and integration of economic development with airport operations.
Ohio	Air Hub/Industrial Park development is coordinated with State Department of Development.
Oregon	The Division of Aeronautics provides support, technical advice and recommendations to Economic Development Department on their funding of airport and airport-related projects. Currently in the process of developing an agency plan for enhancing Economic Development efforts and marketing of aviation as a tool to support tourism, business and industrial development.
Pennsylvania	In 1987 a priority business development value was established for each public-use airport and used in our funding formula. The primary purpose was to reflect the economic development goals mandated by the Administration.
Rhode Island	State's Department of Economic Development promotes airport improvements and development as part of its strategy to attract business/commercial development in the State of Rhode Island.
South Carolina	South Carolina Aeronautics Commission coordinates economic development strategies with the State Development Board, the Governor's Office and the State Transportation Cabinet.
Virginia	The State Department of Economic Development works with the Virginia Department of Aviation (VDOA) to promote the information about commercial and general aviation airport services to potential clients and existing clients. VDOA provides air transportation for Economic Development clients.
West Virginia	In the current SASP update, we are identifying existing and potential air industrial parks/sites for future economic development activities.
Wyoming	Airport improvements follow the guidelines of the airport state system plan which is part of the overall state strategy.

3. Aviation Education/Awareness Programs

Aviation education and awareness programs attempt to ensure continuing, long-term public participation and support for aviation.

- 40 state aviation agencies have staff positions with Aviation Education responsibilities
- 9 states report spending more than $20,000 annually, in addition to personnel cost, on aviation education activities

This section includes material which was originally gathered during 1987 and supplemented by additional information collected during the fall of 1988. The data collected in 1987 were distributed in a NASAO/CARE Special Report, of "Aerospace/Aviation Education Activities in the States." Aerospace/aviation education activities, or "AVED" activities, were shown, in that special report, to be multifaceted. They encompassed activities which:

- Focus both on members of the aviation community and the general public;
- Heighten the public's awareness of aviation's contribution to our national economy;
- Enhance flight safety;
- Build a pool of new entrants for the aviation work force; and
- Encourage the use of aviation-related literature and materials to assist the teaching of core subjects.

The variety of programs receiving a commitment of state financial resources further supports this diversity. During 1987, the states were asked to identify the categories of activities with which the state aviation agency had a financial involvement beyond staff salaries. Table 5.3 summarizes the responses to that question.

TABLE 5.3
AVIATION EDUCATION PROGRAMS

CATEGORY OF ACTIVITY	NUMBER OF STATES*
Aviation Safety	24
Teacher Education	20
Programs for Grades K-12	18
Flight Instructor Clinics	15
Programs for Grades 13+	15
Adult Awareness Programs	11
Vo-Tech Education	6

(* Totals more than fifty as states may have indicated involvement in more than one category of AVED activity)

To support this variety of involvement, forty state aviation agencies report having staff positions specifically assigned AVED responsibilities. The AVED responsibilities, in most instances, are only a portion of one or more employees' overall duties and do not comprise their sole job description.

In addition to devoting aviation agency staff and financial resources, by 1987, twenty-two states had established a state council, forum or committee for aerospace/aviation education. These councils or committees are typically comprised of members of the aviation and education community. Representing both the public and private sectors, these individuals volunteer their time, energy and expertise to draft and direct a statewide aerospace/aviation education effort.

State aviation agencies with active and successful AVED programs typically have a close "working relationship" with the state's Department of Education. Such a relationship can provide the framework for bilateral understanding between the aviation and the education personnel. Often, the aviation agency needs a clear appreciation of the processes and constraints under which the educational community must function. The introduction of new curriculum subjects or teaching tools is not without its share of necessary reviews, paperwork and approvals. At the same time, those in education may come to more fully recognize the resources available from within the aviation community and the positive impact that aviation-related subject matter can have on the teaching of core subjects.

3.1 AVED Activities for the Aviation Community

State aviation personnel conduct safety training program for pilots, local public officials and others nationwide.

The single AVED activity in which the greatest number of states are involved is the conduct and support of aviation safety seminars. These programs, geared toward the aviation community, receive staff support from 37 aviation agencies. Of that number, 16 also provide funding support beyond their staff costs. Typically, these programs are for pilots, airport managers or aircraft/power plant maintenance personnel. Often they are cooperative efforts between the state agency, the Federal Aviation Administration and various aviation organizations. States may use some portion of its pilot licensing and/or aircraft registration fees to fund the seminars.

Also included in this category of activity is a unique national training program for local public officials. Entitled "How to Assure the Future of Your Airport," this course was originally conceived by the State of Wisconsin Bureau of Aeronautics. For the past three years, the one and one-half day course has been offered by states nationwide. The audience includes those elected or appointed local public officials with a limited aviation background but whose public responsibilities include the operation or management of an airport. The course provides an introduction to federal and state aviation regulations, airport facility development funding and airport sponsor/tenant relations. Over 400 local public officials have attended these classes.

An increasing number of state aviation agencies participate actively in airport manager or aviation trade conferences. Such meetings, normally lasting between one and one-half and three days, bring together the varied public and private interests associated with the state's aviation system. Over sixty percent of the states participate in such programs and it seems reasonable to speculate these provide a opportunity for the state (and the FAA) to contribute to airport/aircraft/pilot safety, to increase the public visibility of aviation and to gather agency program guidance from the aviation community.

3.2 AVED Programs for Educators

Aviation and the public-school system derive mutual benefits from coordinated classroom programs.

Second only to programs to increase flight safety is the states' commitment to AVED activities for educators. These activities normally take on a dual focus. The first, and primary function, is to expose the educators to new classroom resources. Aviation provides an excellent vehicle to capture and hold the student's interest. Using aviation-related course materials allows subjects such as math, history, geography and the physical sciences to take on a new and exciting dimension.

The State of Michigan has been a leader in this regard. The "Come Fly With Me" curriculum, developed with financial assistance from the state, provides the teacher with complete lesson plan materials adopted to a number of core subjects. These plans use aviation to demonstrate principles and teach concepts. They are graded so as to be appropriate for the student's age and ability level.

The Alabama Department of Education and Department of Aeronautics are working through a cooperative-funded staff position to integrate the "Fantastic Flight" curriculum into elementary schools statewide. The curriculum was developed by a Ft. Payne, Alabama, first grade teacher and pilot, who uses the excitement of the world of flight to teach not only school subjects, but also a pride and respect for one's self. The program addresses the need for a total development of the student.

A second focus for the states are programs to train teachers to instruct aerospace/aviation courses. Summer teacher workshops, usually offered for college credit, are supported by one-half of the state aviation agencies. These courses are vital if educators are to remain current in a field where technology and innovation advance daily.

Working through teachers, the aviation agency is, actually, targeting a larger audience - the school-aged students. Nationally, the aviation community has a genuine concern about the next generation's ability to meet the challenges of a technologically advanced future. The commitment of aviation interests goes beyond merely training a replacement work force, to the application of resources to the total educational program.

3.3 AVED Activities for Youth

These activities expose the child to the daily role aviation plays in his/her life.

Activities begin for youth at an early age. The State of Illinois' "Project Air Bear," now adopted nationwide by The Ninety Nine's (99's), a women pilots association, provides a real-life experience for pre-school and younger elementary-aged students. The "Air Bear" visits schools, airport open houses and air shows to help the students relate to the important contribution aviation plays in their everyday lives.

Other youth oriented AVED activities frequently mentioned by the states in responding to the NASAO/CARE survey were:

- Scholarships and grants for teachers and students interested in aviation
- Writing or art contests built around aviation themes
- Support for programs such as the Young Astronauts, 4-H and Scouting
- Sponsorship of career day events

An ancillary benefit to be realized from the AVED activities for youth is a heightened aviation awareness among the general public. Today's voters are strongly influenced by today's youth, who in turn will be tomorrow's voters. Continued support and understanding for aviation's needs depends upon an educated and enlightened public. This is then a long-term goal and objective of all aerospace/aviation education programs.

3.4 State Aviation Education Program Budget

Philanthropical support plus state financial aid and extensive volunteer work on the part of aviators support AVED activities.

As part of NASAO/CARE's survey of the states, the aviation agencies were asked to indicate the level of funding, excluding staff salaries, they would devote to AVED activities during fiscal year 1988. A summary of these responses follows:

TABLE 5.4
STATE AVIATION EDUCATION BUDGETS

FY'88 Financial Commitment (excluding salaries)	Number of States
< $1,000	20
$1,000 - $4,999	12
$5,000 - $9,999	4
$10,000 - $20,000	5
> $20,000	9

APPENDIX A

GLOSSARY OF TERMS AND ABBREVIATIONS

ADAP: see Airport Improvement Program

AIP: see Airport Improvement Program

Airport and Airways Trust Fund: The aviation equivalent of the federal Highway Users Trust Fund, the Airport and Airways Trust Fund was established to receive and hold user taxes and fees for later utilization by the FAA. The sources of revenue for this Trust Fund include an 8% ticket tax paid by all commercial airline passengers and federal excise taxes on aviation fuels and tires. Particularly since deregulation of the air carrier industry in 1978 and the accompanying rapid growth in air travel, the Trust Fund has had annual deposits exceeding the FAA's spending authority. By December 1988, the uncommitted balance in the Trust Fund exceeded $5.8 billion.

Airport Improvement Program (AIP): The "Airport and Airway Act of 1982" established the Airport Improvement Program (AIP) as the vehicle by which the FAA is able to fund capital development projects. The "Airport and Airway Safety and Capacity Expansion Act of 1987" made only minor changes to the criteria and direction of the Airport Improvement Program. Historically, AIP is a legislative descendant of earlier FAA funding programs such as its immediate predecessor the Airport Development Aid Program (ADAP). The federal government has funded airport development projects since 1946.

Funds for grants issued under AIP come from the Airport and Airways Trust Fund, having been collected from system users. AIP grants are made to eligible airport sponsors, with the federal government paying, in most instances up to 90% of the project's total cost. AIP grants cover capital improvements, airport master planning, state and regional systems planning and noise compatibility planning and mitigation efforts.

The authorizing legislation has established funding thresholds, by type of airport and/or category of project, which the FAA must meet annually with its AIP grants. Included among these are specified apportionments for air carrier airports, reliever airports, the states and cargo service airports. Project categories to which funding must be directed include systems planning, capacity, security and safety programs.

Automated Weather Observation System (AWOS): an automated, real-time meteorological data collection and reporting system. These units consist of sensors which measure air temperature, dewpoint, barometric pressure, wind speed and direction, cloud height and visibility. The information is transmitted over an internal radio frequency or the voice portion of a local NAVAID. The AWOS broadcasts a 20 to 30 second message once a minute. In most cases this same weather data can also be accessed via telephone. Individual systems may be incorporated into regional or nationwide collection/dissemination networks in the future.

AVED: see Aviation/Aerospace Education

AVGAS: see Aviation Fuels

Aviation Fuels: - aircraft engines typically utilize one of the following three fuel types:

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AVED: see Aviation/Aerospace Education

AVGAS: see Aviation Fuels

Aviation Fuels: - aircraft engines typically utilize one of the following three fuel types:

Aviation Gasoline (AVGAS): a slightly more highly refined and cleaner product than motor vehicle gasoline. The most prevalent grade for sale is 100 octane low-lead (100LL).

Jet Fuel: a kerosene product for use in turbine engine aircraft. Often referred to as Jet-A which is one of the standard grades offered for civil aviation use.

Motor Vehicle Fuel (MOGAS): some aircraft and engine combinations are eligible to receive written FAA approval to use common automobile gasoline. The per gallon cost savings, to the aircraft operator, can range up to 50%.

Aviation/Aerospace Education (AVED): activities focusing both on members of the aviation community and the general public which heighten the awareness of aviation's role in our nation's economy, which enhance flight safety and which build a pool of new entrants to the work force. Further, Aviation/Aerospace Education encourages the use of aviation-related literature and materials to enhance the teaching of such core subjects as language arts, mathematics, history, geography and the physical sciences.

AWOS: see Automated Weather Observation System

CFR: see Crash/Fire/Rescue

Crash/Fire/Rescue (CFR): Airport-provided emergency services required at those locations receiving scheduled commercial service. The extent of CFR coverage (equipment and manpower) required by the FAA is based upon the size of aircraft operating at the airport and the frequency of daily flight operations. Recently, the FAA has introduced a new term to cover this service: Aircraft Rescue and Fire Fighting (ARFF).

FAA: see Federal Aviation Administration

Federal Aviation Administration (FAA): The primary federal government agency responsible for aviation. The FAA is a modal component of the U. S. Department of Transportation. As part of its responsibilities, the FAA is charged to ensure aviation safety, promote and fund aviation facility development and operate the national air traffic control system. Funding for the FAA and its activities comes from the Airport and Airways Trust Fund as well as from general fund appropriations.

FTE: see Full Time Equivalents

Full Time Equivalents (FTE): The number of employee staff positions an agency has or requires. The number of FTEs is calculated by summing the total number of hours worked by all staff employees and dividing by 2080 hours. Thus, two half-time positions (four hours per day and 1040 hours per year) equates to one Full Time Equivalent (FTE).

GA: see General Aviation

General Aviation (GA): Includes all civil (non-military) aviation activity except that conducted by the certificated air carriers or the commuter carriers. General Aviation includes recreational flying as well as personal, business and corporate transportation. State governments are often active in the General Aviation field with their executive air transport operations and aircraft use by the law enforcement, wildlife and natural resource agencies. Aerial applicators ("crop dusters"), airborne traffic reporters and emergency medical transport services are other highly visible General Aviation operators.

A 1989 Aviation Fact Card prepared by the Aircraft Owners and Pilots Association (AOPA) has shown that 217,000 of the 222,000 total active aircraft (97.6%) are included in the General Aviation fleet. These aircraft operated an estimated 33 million hours and carried over 110 million passengers during 1987 (the last year for which data are available). A major benefit of General Aviation is the ability of these aircraft to safely operate into any of the more than 5,700 public-use airports in the country, thus often bring the traveller, be they travelling on business or pleasure, much closer to their final destination than the closest airport receiving scheduled commercial air service.

Jet Fuel: see Aviation Fuels

MOGAS: see Aviation Fuels

NASAO: see National Association of State Aviation Officials

National Association of State Aviation Officials (NASAO): Established in 1931, NASAO represents the state government aviation service agencies in the 50 states, as well as the aviation departments of Puerto Rico and Guam. The NASAO Constitution states that "the purpose of the National Association of State Aviation Officials (shall be) to encourage and foster cooperation and mutual aid among the States and Territories, the federal government and the public sector in the development and promotion of civil aviation systems that can safely and effectively serve the needs of the citizens of this nation."

During 1986, the NASAO Board of Directors took steps to create an affiliate organization, the **NASAO Center for Aviation Research and Education** (NASAO/CARE). NASAO/CARE seeks, through use its non-profit corporate status, to achieve an expanded and safer air transportation system. NASAO/CARE has pursued this objective through administration of an FAA airport safety inspection contract and through its involvement in research projects and educational programs.

National Plan of Integrated Airport Systems (NPIAS): Mandated by Congress, the NPIAS is the federal plan for the development of public-use airports. The plan is limited to those development projects potentially eligible for federal funding assistance, thus it does not provide a single reference document in which all airport capital improvement needs are identified. Nor is a project's inclusion in the NPIAS a commitment on the part of the FAA to provide funding. In the preparation of the NPIAS, the FAA draws selectively from local, regional and state planning studies.

NAVAID: see Navigational Aid

Navigational Aid (NAVAID): A wide variety of aids, both visual and electronic, are provided to assist pilots with en route (airport-to-airport) navigation and with the approach to a specific airport or runway and subsequent landing. Collectively these facilities are known as Navigation Aids or NAVAIDs.

As with the other elements of the aviation system, the provision of NAVAIDs entails both the cost of initial purchase and installation and the continuing operating costs thereafter. Given the nature of the service provided by a NAVAID, and the likelihood that its greatest use will be during periods of less than excellent weather or visibility conditions, NAVAIDs have requirements for regular and often constant monitoring and maintenance attention.

NPIAS: see National Plan of Integrated Airport Systems

SASP: see State Aviation Systems Plans

State Aviation Systems Plans (SASP): Each state has prepared, or is currently in the process of preparing or updating, a plan for the development of aviation facilities within its borders. Such a plan serves to recognize those airports, existing or planned, which the state sees as contributing to the state's overall transportation system. Inclusion in the SASP is required for inclusion in the federally prepared National Plan of Integrated Airport Systems (NPIAS) which in turn is a pre-requisite for federal funding assistance.

The SASP normally provides an inventory of existing facilities and a historic perspective on the amount of demand each airport has handled. These data can then provide the basis for forecasts of future demand levels and ultimately the identification of the development projects needed to support that demand. The SASP will frequently cover more than strictly airport capital improvements and will branch out to examine the need for navigational aids, new instrument approach procedures and aviation weather collection/dissemination hardware.

Funding for the development and maintenance of the SASP is available under the FAA's Airport Improvement Program (AIP). The FAA will pay for up to 90% of the planning project's cost from the 0.5% set aside mandated in the AIP authorization legislation.

APPENDIX B

STATE TWO-LETTER ABBREVIATIONS

AL	ALABAMA	MT	MONTANA
AK	ALASKA	NC	NORTH CAROLINA
AR	ARKANSAS	ND	NORTH DAKOTA
AZ	ARIZONA	NE	NEBRASKA
CA	CALIFORNIA	NH	NEW HAMPSHIRE
CO	COLORADO	NJ	NEW JERSEY
CT	CONNECTICUT	NM	NEW MEXICO
DE	DELAWARE	NV	NEVADA
FL	FLORIDA	NY	NEW YORK
GA	GEORGIA	OH	OHIO
HI	HAWAII	OK	OKLAHOMA
IA	IOWA	OR	OREGON
ID	IDAHO	PA	PENNSYLVANIA
IL	ILLINOIS	RI	RHODE ISLAND
IN	INDIANA	SC	SOUTH CAROLINA
KS	KANSAS	SD	SOUTH DAKOTA
KY	KENTUCKY	TN	TENNESSEE
LA	LOUISIANA	TX	TEXAS
MA	MASSACHUSETTS	UT	UTAH
MD	MARYLAND	VA	VIRGINIA
ME	MAINE	VT	VERMONT
MI	MICHIGAN	WA	WASHINGTON
MN	MINNESOTA	WI	WISCONSIN
MO	MISSOURI	WV	WEST VIRGINIA
MS	MISSISSIPPI	WY	WYOMING

APPENDIX C

THE STATES

and

AIR TRANSPORTATION

SURVEY INSTRUMENT

STATE AND STATE-AVIATION AGENCY SURVEY PARAMETERS

GENERAL INFORMATION

101) State Aviation Agency Name & Address (current mailing label)

102) Telephone number: (___) ___-_____.

103) NASAO Information Officer: _____.

104) Phone #: (___) ___-_____.

105) Is the state aviation agency an independent commission/department? (Y/N) _____

106) Is the aviation agency located within another department? (Y/N) _____

106(a) If yes, name of department._____
_____

107) Does your state aviation agency own/operate airports receiving scheduled commercial air service? (Y/N) _____

108) Are there other state agencies/entities which provide aviation services which are not directly within your state aviation agency (e.g., search and rescue)? (Y/N) _____

108(a) If yes, specify the agency and service(s) provided:

_____
_____
_____
_____

109) Are there other quasi-state government agencies associated with the development and/or operation of air carrier airports (e.g., MASSPORT, Port Authority of New York/New Jersey) independent from your state aviation agency? (Y/N) _____

109 (a) If yes, name and explain the extent of your **state government's** involvement and financial commitment:

_____
_____
_____

110) What is the number of your state aviation agency fulltime equivalents (FTE'S):
_____

111) Indicate by circling "Yes" "No" or "Not Applicable" if your state aviation agency provides the following functions by use of state aviation agency personnel, other state agency(s) personnel or by contract. (For example, if you have administrative functions that are fulfilled by aviation agency staff as well as by another state agency, but not by a contractor, you would circle "Y", "Y" and "N.A." across from Administrative Staff.)

MANPOWER DUTIES	Aviation Agency	Other State Agencies/Departments	Contract
(112-114) Administrative Staff & Support (e.g., accounting/statistics, clerical, motor pool)	Y N N.A.	Y N N.A.	Y N N.A.
(115-117) Airport Operations (e.g., management, security, maintenance)	Y N N.A.	Y N N.A.	Y N N.A.
(118-120) Regulatory Matters (e.g., airport &/or aircraft registration/licensing)	Y N N.A.	Y N N.A.	Y N N.A.
(121-123) Planning (e.g., airport master plans & state system plans)	Y N N.A.	Y N N.A.	Y N N.A.
(124-126) Aviation Policy (e.g., directly advise governor and/or legislature on policy matters)	Y N N.A.	Y N N.A.	Y N N.A.
(127-129) Airport Project Management (e.g., technical assistance and engineering support)	Y N N.A.	Y N N.A.	Y N N.A.
(130-132) Aviation Safety (e.g., pilot seminars, airport maintenance - painting/windsocks, 5010 inspections)	Y N N.A.	Y N N.A.	Y N N.A.
(133-135) Environmental Services (e.g., noise, tanks, pollution, land use planning, tall towers)	Y N N.A.	Y N N.A.	Y N N.A.

(136) Other important functions; Specify: _____

137) Based on the manpower functions you described above, estimate:

137 (a) The number of FTE's you use that are provided by other state agencies: _____
137 (b) The number of FTE's you use that are fulfilled by contractors: _____

138) What activities now performed by the FAA could your state assume if funded by the FAA? Be specific:

_____

PUBLIC-USE AIRPORT INVENTORY

(138-188) COUNT EACH AIRPORT ONLY ONCE (pick one category based on predominant use) AND REPORT ONLY EXISTING AIRPORTS. Use enplanements based upon FAA Annual report (October, 1987) which reports 1986 numbers.

	Total Number	Ownership: State Av. Ag. Owned	Ownership: Other State Ag. Owned	Ownership: Other Public Entity Owned	Ownership: Private Owned
A - AIRPORTS IN NPIAS					
Commercial Service					
• Primary (>10,000 enplanements)					
• Non-Primary (<10,000 enplanements)					
FAA Designated Reliever					
General Aviation (less relievers)					
Public-Use Heliports					
B - NON-NPIAS AIRPORTS					
Commercial Service					
• Primary (>10,000 enplanements)					
• Non-Primary (<10,000 enplanements)					
General Aviation (less relievers)					
Public-Use Heliports					

191) List any other existing airports which have capacity relief potential (e.g., military joint-use airfields; existing private-use airports:)

STATE AIRPORT PLANNING AND DEVELOPMENT ASSISTANCE PROGRAMS (EXCLUDE FEDERAL FUNDS)

201) What fiscal year does your state aviation agency operate on? Begins: _____; Ends: _____

202) PLEASE REPORT DATA BASED ON LATEST FISCAL YEAR POSSIBLE; FISCAL YEAR: 19_____.

203) Total state aviation agency budget: $_____.

203 (a) Amount used to match federal grants: $_____.

203 (b) Amount of total budget devoted to state grant/loan programs and not used to match federal grants: $_____.

State grants for public-use/public-owned airports/heliports/seaplane bases. (Do not include NAVAIDS and improvements made at non-airport sites (e.g., sound proofing school/homes)):

	Capital Improvement	O&M	Planning
(204-215) State-owned airports/heliports			
Primary CS	$	$	$
Non-Primary CS	$	$	$
FAA Designated Relievers	$	$	$
General Aviation	$	$	$
(216-227) Other publicly-owned airports/heliports			
Primary CS	$	$	$
Non-Primary CS	$	$	$
FAA Designated Relievers	$	$	$
General Aviation	$	$	$
(228-239) Public-use/Private-Owned airports			
Primary CS	$	$	$
Non-Primary CS	$	$	$
FAA Designated Relievers	$	$	$
General Aviation	$	$	$

240) What was the amount of state match to FAA airport systems planning grants (include state and regional system plans; do not include master plans): $_____

241) Approximately what percentage of state aviation grant dollars go to airports included in the NPIAS? _____%

242) List all state grant matching formulas and explain (e.g., 50/25/25 for terminal projects; 90/5/5 for airport land acquisition, etc.):

(a) federal/state/local _____

(b) state/local _____

243) Does the state aviation agency have a loan program for airport development or operation and maintenance for public or private-owned airports? (Y/N) _____

If yes, indicate the following:
(a) Loan program for PUBLIC-OWNED AIRPORTS:

Purpose of loan	$ available to loan	$ actually loaned	Interest & terms

(b) Loan program for PRIVATE-OWNED AIRPORTS:

Purpose of loan	$ available to loan	$ actually loaned	Interest & terms

244) Does your state aviation agency fund multi-year projects? (Y/N) _____

245) Concerning airport planning and development assistance, what is the total of your state aviation agency dollars expended for other airport related programs (excluding NAVAIDS) and dollars per program (e.g., airport promotion brochures, economic impact studies, etc.)

Specify program	Amount

246) Using a scale of 1 to 5 (Rank 1 = most important; 5 = least important), rank each of the following factors according to their importance in making decisions concerning state aviation agency funding of airport projects:

Rank	Factor
_____	(a) Economic impact
_____	(b) Tourism
_____	(c) FAA funding commitment
_____	(d) Capacity
_____	(e) Safety
_____	(f) Availability of local funds
_____	(g) Preservation
_____	(h) Inclusion in the NPIAS
_____	(i) Current FAA Priorities
_____	(j) To meet FAA design standards
_____	(k) National significance of airport
_____	(l) Inclusion in the State Aviation System Plan
_____	(m) Other; Specify: _____

247) Is your Department/Agency *required, permitted or prohibited* to act as an agency or a sponsor in a FEDERAL airport project? _____

247 (a) If you answered "permitted," does your state act as a sponsor in FEDERAL airport projects? (Y/N) _____

STATE PROGRAMS TO INCREASE AIRPORT CAPACITY AND UTILITY

401) Indicate the number and type of navigation aids (NAVAIDS) for which the state aviation agency financially assisted in the purchase, operation &/or maintenance of some or all of the cost in the past **five** (1983-1988) years (include NAVAIDS partially funded by federal, local and/or private funds: do not include any NAVAID that was funded totally with federal funds):

Navigation Aid	# Purchased (State Only)	# Purchase (State Assisted)	# Maintained (State Only)	# Maintained (State Assisted
NDB				
ILS				
VOR/TVOR				
LOC				
AWOS				
VASI/PAPI/PLASI				
CONTROL TOWERS				
DME				
MLS				
AIRPORT BEACONS				
APPROACH LIGHTS				
UNICOMS				
Weather Dissemination Programs				
Wind Indicators				
Other				

402) **In the last fiscal year**, what amount of state funding was used for navigational aids: (electronic and visual NAVAIDS not including runway, taxiway or threshold lighting)

402 (a): Funding for Purchase and Installation $_____
402 (b): Funding for Operation and Maintenance $_____

403) Does the state have a State Aviation System Plan (SASP)? (Y/N/in progress) _____

If Yes, complete the following:
403 (a): Year completed: _____
403 (b): Number of airports identified in the Systems Plan: _____
403 (c): Does your SASP identify specific airport development projects to be funded? ___

404) How often is your system plan revised? _____ year(s)

405) What do you use your SASP for? (e.g., Information purposes: legislators, public; State priority system?, etc.) Other uses:

_____

406) Do you have a process with the FAA that assures that Federal funding goes to airport development goals identified in the SASP? (Y/N) _____

406 (a): If yes, is it a formal or informal process? _____

407) Does your state aviation agency regulate the following?

Airport height hazards* _____
Tall Structures _____
Compatible Land Use Zoning _____

* within an airport's FAR Part 77 surfaces

408) What entity/agency has the authority to implement regulation of the following?

Airport height hazards* _____
Tall Structures _____
Compatible Land Use Zoning _____

* within an airport's FAR Part 77 surfaces

409) **In the last fiscal year,** did your **state government** expend state funds for airport noise compatibility enhancements such as:

409 (a): Land acquisition_____ (Y/N); if yes, Amount: $_____
409 (b): Sound proofing_____ (Y/N); if yes, Amount: $_____
409 (c): Re-sale assurance_____ (Y/N); if yes, Amount: $_____
409 (d): Avigation easements_____ (Y/N); if yes, Amount: $_____
409 (e): Part 150 studies_____ (Y/N); if yes, Amount: $_____
409 (f): Other_____ (Y/N); if yes, Amount: $_____

410) Closing airports decreases capacity and can have an important impact on the local economy and quality of life - what <u>specific</u> programs, if any, does your state aviation agency or state government have aimed at preserving public-use airports? Please describe: (e.g., state acquisition of private-owned airports; extending property tax relief)

_____
_____
_____
_____
_____
_____

PROGRAMS TO IDENTIFY AVIATION'S CONTRIBUTION TO ECONOMIC HEALTH

501) Has your state aviation agency conducted a study of the economic benefit of aviation activity within the state? (Y/N) _____

501 (a): If yes, study title: _____
501 (b): Year completed: _____
501 (c): Who did the study (state aviation agency personnel/contractor): _____
501 (d): Number and type of airports included in the study: _____
501 (e): Source of the methodology used in the analysis: _____

502) Has the state aviation agency conducted commercial air service studies? (Y/N) _____

503) What action has your **state government** taken to enhance the provision of scheduled air service? Explain:

_____
_____
_____
_____

504) Can you cite examples of private capital (excluding bond issues) being used for airport projects that would otherwise have been eligible for federal AIP funds? (e.g., a ski company builds a runway to serve tourists, etc.) (Y/N) _____

504 (a) If yes, specify name of airport - name of project - cost - source of money - contact individual:

_____
_____
_____
_____

504 (b) Was an attempt made to secure federal grant money for the airport project? (Y/N) ___

505) Identify other **state government** sources of funding for airport development independent from your state aviation agency (e.g., state Commerce Department):

_____
_____

506) Can you identify specific airport related projects where money spent on development lead to an increase in economic activity? (Y/N) _____

506 (a): If yes, please specify:

_____
_____
_____
_____

507) Is the state aviation agency activities part of the **state government** economic development strategy? (Y/N) _____

507 (a): If yes, please specify

_____
_____
_____
_____

COORDINATION OF INTERMODEL SURFACE ACCESS TO AIRPORTS

701) Is there regular coordination of surface (including highways, rail transportation, etc.) and aviation planning to enhance access to airports? (Y/N) _____

701 (a): If yes, is this coordination formal or informal? _____

701 (b): If formal, describe the process:

_____
_____
_____
_____
_____
_____
_____

702) To your knowledge, is/are there Metropolitan Planning Organization(s) (MPO) in your state? (Y/N) _____

702 (a) If yes, does your state agency and/or airport sponsor participate in their Metropolitan Planning Organization? (Y/N) _____

702 (b) If your state agency and/or airport sponsor does not participate in the Metropolitan Planning Organization, then how are aviation planning interests represented to the MPO?

_____
_____
_____
_____

703) Does your state aviation agency provide any assistance which specifically results in improved surface access to airports? (Y/N) _____

703 (a): If yes, specify:

_____
_____
_____
_____
_____